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VOL. XIX.

IMPORTANCE

OF

PRACTICAL EDUCATION

AND

USEFUL KNOWLEDGE.

BY EDWARD EVERETT.

BOSTON:
MARSH, CAPEN, LYON, AND WEBB.
1840.

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IMPORTANCE

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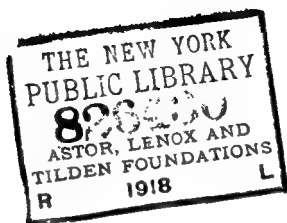
USEFUL KNOWLEDGE:

BEING

A SELECTION FROM HIS ORATIONS AND OTHER DISCOURSES,

BY EDWARD EVERETT.

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AUTHOR'S ADVERTISEMENT.

This Volume contains a selection from the orations and speeches delivered by the Author, on various public occasions, within the last sixteen years. Although most of them refer to the subject of Education, in some one of its numerous aspects, it cannot be expected of the collection to form a systematic whole, exhibiting the unity of a single treatise. As several of them were delivered on occasions of precisely the same character, there is a repetition of some of the ideas and illustrations, scarcely to be avoided, under the circumstances of the case.

The reader is requested to advert to the date of the original delivery of the different orations and speeches, which compose the Volume. They contain some references, which could not conveniently be altered, to things as they existed at the time, and which have since undergone change. The cases are such, however, it is believed, that no erroneous impression will be produced on the mind, by leaving the text as it originally stood. It will even sometimes be found, that the original statement affords the means of an instructive comparison with the present state of things, in matters pertaining to the progress of the country.

Of the addresses contained in this Volume, those delivered before 1836 are found in the general collec-

tion of the Author's orations, published in that year. Those of subsequent date have never before been collected. The speech made at the School Convention, at Taunton, has never appeared in a separate form; and the remarks at the School Convention, at Tisbury, are now for the first time published.

The addresses, which have before appeared, have been subjected to a careful revision, for this edition, especially with a view to their adaptation for youthful readers. Several of the marginal references and other explanations have been made for their information, by the intelligent and accurate Supervisor of the publication, Mr. Joseph W. Ingraham, to whom the Author feels himself under great obligations, for the care with which the Volume has been carried through the press. The Glossary, an important addition to the Work, will, it is believed, be found to contain a more than usual amount of valuable information.

The Volume is now respectfully dedicated to the rising generation of the country, with ardent wishes for their improvement, virtue, and happiness.

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ORATIONS AND ADDRESSES.

THE CIRCUMSTANCES FAVORABLE TO LITERARY IMPROVEMENT IN AMERICA.*

MR. PRESIDENT, AND GENTLEMEN,—IN discharging the honorable trust, which you have assigned to me, on this occasion, I am anxious, that the hour, which we pass together, should be exclusively occupied with those reflections, which belong to us, as scholars. Our association in this fraternity is academical; we entered it, before our Alma Mater dismissed us from her venerable roof; and we have now come together, in the holydays, from every variety of pursuit, and every part of the Country, to meet on common ground, as the brethren of one literary household. The duties and cares of life, like the Grecian states, in times of war, have proclaimed to us a short armistice, that we may come up, in peace, to our Olympia.

On this occasion, it has seemed proper to me, that we should turn our thoughts, not merely to some topic of literary interest, but to one which concerns us, as American scholars. I have accordingly selected, as the subject of our inquiry, THE CIRCUMSTANCES PECULIARLY CALCULATED TO PROMOTE THE PROGRESS OF IMPROVEMENT, AND TO FURNISH THE MOTIVES TO INTELLECTUAL EXERTION, IN THE UNITED STATES OF AMERICA. In

* An Oration, pronounced at Cambridge, before the Society of Phi Beta Kappa, August 26, 1824.

the discussion of this subject, that curiosity, which every scholar naturally feels, in tracing and comparing the character of the higher civilization of different countries, is dignified and rendered practical, by the important connexion of the inquiry, with the condition and prospects of his Native Land.

I am aware that such inquiries are apt to degenerate into fanciful speculations, and doubtful refinements. Why Asia has, almost without exception, been the abode of some form of despotism, and Europe more propitious to liberty;—why the civilization of the Egyptians was of a character so melancholy and perishable; that of the Greeks so elegant, versatile, and life-giving; that of the Romans so stern and tardy, till they became the imitators of a people, whom they conquered and despised, but never equalled;—why tribes of barbarians, from the North and East, not supposed to differ, essentially, from each other, at the time of their settlement in Europe, should have laid the foundation of national characters so dissimilar, as those of the Spaniards, French, Germans, and English;—are questions, to which such answers, only, can be given, as will be just and safe, in proportion as they are general and comprehensive. It is difficult, even in the case of the individual man, to point out precisely the causes, under the operation of which, members of the same community, and even of the same family, grow up, with characters the most diverse. It must, of course, be much more difficult to perform the same analysis on a subject so vast as a nation, composed of communities and individuals, greatly differing from each other, all subjected to innumerable external influences, and working out the final result, not less by mutual counteraction, than coöperation.

But as, in the formation of individual character, there are causes of undisputed and powerful operation, so, in national character, there are causes, equally undisputed, of growth and excellence, on the one hand, and of degeneracy and ruin, on the other. It belongs to the philosophy of history, to investigate these causes; and, if

possible, to point out the circumstances, which, as furnishing the motives, and giving the direction, to intellectual effort in different nations, have had a chief agency in making them what they were, or are. Where it is done judiciously, it is in the highest degree curious, thus to trace physical or political facts into moral and intellectual consequences, and great historical results; and to show, how climate, geographical position, local topography, institutions, single events, and the influence of the characters of individuals, have fixed the pursuits and decided the destiny of nations.

In pursuing such inquiries, we may be led to the conclusion, that the physical effect of a tropical climate enervates a people, and fits them to become the subjects of despotism; though it may render them, also, formidable instruments of desolating but transitory conquest, under the lead of able and daring chiefs. We may find that a broad river, or a lofty chain of mountains, by stopping the march of war or of emigration, becomes the boundary, not merely of governments, but of languages and literature, of institutions and character. We may sometimes think we can trace extraordinary skill, in the liberal arts, to the existence of a quarry of fine marble. We may see popular eloquence springing out of popular institutions, and, in its turn, greatly instrumental in affecting the fortunes of free states. We may behold the spirit of a lawgiver or reformer perpetuated by codes and institutions, for ages. We may trace the career of colonial settlements, insular states, tribes fortified within Alpine battlements, or scattered over a smiling region of olive gardens and vineyards:—and deduce the political and historical effects of these physical causes.

These topics of rational curiosity and liberal speculation, as I have already intimated, acquire practical importance, when the land in which we live is the subject of investigation. When we turn the inquiry to our own Country; when we survey its natural features, search its history, and examine its institutions, to see, what are

the circumstances which are to excite and guide the popular mind; it then becomes an inquiry of the highest interest, and worthy the attention of every patriotic scholar. We then dwell, not on a distant, uncertain, perhaps fabulous, past, but on an impending future, teeming with life, and action, and public fortune; a future, toward which we are daily and rapidly swept forward, and with which we stand in the dearest connexion, that can bind the generations of men together; a future, which our own characters, actions, and principles, may influence, for good or evil, for lasting glory or shame. We then strive, as far as our poor philosophy can do it, to read the Country's reverend auspices; to cast its great horoscope in the national sky, where some stars are waning, and some have set. We endeavor to ascertain, whether the soil, which we love, as that where our fathers are laid, and we shall presently be laid with them, is likely to be trod, in times to come, by an enlightened, virtuous, and free, people.

I. The first circumstance, of which I shall speak, as influencing the progress of improvement, and furnishing the motives to intellectual effort among us, is the new form of political society, established in the United States. It is not my purpose to detain you with so trite a topic, as the praises of free political institutions; but to ask your attention to the natural operation of a representative republican system, on the character of a people. I call this, a new form of political society. The ancient Grecian republics, indeed, were free enough, within the walls of the single cities, of which many of them were wholly or chiefly composed; while, toward the confederate or tributary states, the government too often assumed the form of a despotism, more capricious, and not less arbitrary, than that of a single tyrant. Rome was never the abode of genuine, well-regulated liberty. The remark just made of the Grecian republics extends to the Roman, for the greater portion of its history; while, within the walls of the city, the state of the Commonwealth fluctuated between the evils of

an oppressive aristocracy and a factious populace. The rudiments of a representative legislature are to be found, in the *estates* of some of the governments of continental Europe, and far more distinctly and effectually developed in the British Parliament; but a uniform and complete representative system, organized by a written constitution of government, is original in this Country. Here, for the first time, the whole direction and influence of affairs, and all the great organic functions of the body politic, are subjected, directly or indirectly,—the executive and legislative functions, directly,—to free popular choice. Whatsoever quickening influence resides in public honors and trusts, and in the cheerful consciousness of the individual possession of the most momentous political rights, is here exerted, directly, on the largest mass of men, with the smallest possible deductions. As a despotism, like that of Turkey or Persia, is, by all admission, the form of government least favorable to the intellectual progress of a people, it would seem equally certain, that the further you recede from such a despotism, in the establishment of a system of popular and constitutional liberty, the greater the assurance that the universal mind of the country will be powerfully and genially excited.

But it is objected, that, under an elective government, of very limited powers, like those of the United States, we lose that powerful spring of action, which exists in the patronage of strong hereditary governments, and must proceed from the Crown. I believe it is a prevalent opinion, abroad, among those who entertain the most friendly sentiments toward the American institutions, that we must consent to dispense with something of the favorable influence of princely and royal patronage on letters and the arts, and find our consolation in the political benefits of a republican government. It may be doubted, however, whether this view be not entirely fallacious. It is by no means to be inferred from the fact, that brilliant geniuses have adorned the courts of monarchs, that such geniuses would not have existed,

under any other form of government. The patronage that rewards does not necessarily create.

It is more important, however, to be observed, that the evils of centralization are as evident, in reference to the encouragement of the general mind of the people, as they are in regard to a contented acquiesence in political administration. Whatever is gained, for those who enjoy it, by concentrating a powerful patronage in the capital, and in the central administration, is lost, in the neglect and discouragement of the distant portions of the state, and its subordinate institutions. It must be recollected, that our representative system extends far beyond the election of the high officers of the National and State governments. It pervades our local and municipal organizations, and probably exercises, in them, the most efficient and salutary part of its influence. In the healthful action of this representative system, whatever virtue there is in patronage is made to pervade the republic, like the air; to reach the furthest, and descend to the lowest. It is made not only to cooperate with the successful, and decorate the prosperous, but to cheer the remote, "to remember the forgotten, to attend to the neglected, to visit the forsaken." Hitherto, the faculties of men have had but one weary pilgrimage to perform,—to travel up to Court. By an improvement on the Jewish polity, which enjoined a visit, thrice a year, to the Holy City, the theory of patronage, in question, requires a constant residence at the favored spot. *Provincial* has become another term for inferior and rude; and *unpolite*, which once meant only *rural*, has been made to signify something little better than barbarous. As it is, in the nature of things, a small part, only, of the population of a large state, which can thus bring itself, or by happy chance can fall, into the sphere of metropolitan favor, it follows, that the mass of the people are cut off from the operation of those motives to exertion, which flow from the hope or the possession of patronage.

The auspicious influence of patronage is not, on any

system of distribution, to be sought, in its direct application to the support of men of genius and learning. Its best operation is in the cheerful effect of kindly notice and intelligent audience. Talent indeed desires to earn a support, but not to receive a dole. It is rightfully urged, as the great advantage of our system, that the encouragements of society extend as widely as its burdens, and search out, and bring forward, whatsoever of ability and zeal for improvement are contained in any part of the land. I am persuaded, that, mainly in this equable diffusion of rights and privileges, lies the secret of the astonishing developement of intellectual energy, in this Country. Capacity and opportunity, the twin sisters, who can scarce subsist but with each other, are brought together. These little local republics are schools of character; nurseries of mind. The people, who are to choose, and from whose number are to be chosen, by their neighbors, all those, who, either in higher or lower stations, are intrusted with the management of affairs, feel the strongest impulse to mental activity. They read, and think, and form judgements on important subjects. In an especial manner, they are moved to make provision for education. With all its deficiencies, our system of public schools, —founded, in the infancy of the Country, by the colonial legislature, and transmitted to our own days,—is superior to any system of public instruction, (with possibly a single exception,) which has ever been established by the most enlightened states of the Old World. Hasty prejudices, against representative republics, have been drawn from the disorders of the ill-organized democracies of the ancient world. Terrific examples of license and anarchy, in Greece and Rome, are quoted, to prove, that man requires to be protected from himself, forgetting the profound wisdom wrapped up in the familiar inquiry, *Quis custodiet ipsos custodes?** But to reason from the states of Greece, to our consti-

* Who shall guard the keepers?

tutions of government, is to be deceived by schoolboy analogies. From the first settlement of New England, one of the most prominent traits of the character of our population has been, to provide and to diffuse the means of education. The village schoolhouse and the village church are the monuments of our republicanism; to read, to write, and to discuss grave affairs, in their primary assemblies, are the licentious practices of our democracy.

But, in this acknowledged result of our system of government, another objection is taken to its influence, as far as literary progress is concerned. It is urged, that, though it may be the effect of our institutions, to excite the mind of the people, they excite it too much in a political direction; that the division and subdivision of the Country into states and districts, and the equal diffusion of political privileges and powers among the whole population, and the constant recurrence of elections, however favorable to civil liberty, are unfriendly to learning; that they kindle only a political ambition; and particularly, that they seduce the aspiring youth, from the patient and laborious vigils of the student, to plunge prematurely into the conflicts of the forum.

I am inclined to think, that, as far as the supposed facts exist, they are the necessary result of the present stage of our national progress, and not an injurious effect of representative government. Our system is certainly an economical one, both as to the number of persons employed, and the compensation of public service. It cannot, therefore, draw more individuals from other pursuits into public life, than would be employed under any other form or system of government; nor hold out stronger inducements, or brighter rewards. It is obvious, that the administration of the government of a country, whether it be liberal, or absolute, or mixed, is the first thing to be provided for. Some persons must be employed in making and administering the laws, before any other human interest can be attended to. The Fathers of Plymouth formed themselves into a

convention, to organize a compact of government, before they left the Mayflower. This was natural, wise. Had they, while yet on ship-board, talked of founding learned societies, or engaged in the discussion of philosophical problems, it would have been insipid pedantry. As the organization and administration of the government are, in the order of time, the first of mere human concerns, they must ever retain a paramount importance. Every thing else must come in by *opportunity*; this, of *necessity*, must be provided for: otherwise, life is not safe, property is not secure, and there is no permanence in the social institutions. The first efforts, therefore, of men, in building up a new state, are, of necessity, political. But where else in the world, did the foundation of the college ever follow, so closely, on that of the republic, as in Massachusetts? In the early stages of society, when there is a scanty population, its entire force is required for administration and defence. We are receding from this stage, but have not yet reached that, in which a crowded population produces a large amount of cultivated talent, not needed for the service of the state.

As far, then, as the talent and activity of the Country are at present called forth, in a political direction, it is fairly to be ascribed, not to any supposed incompatibility of popular institutions with the cultivation of letters, but to the precise point, in its social progress, which the Country has reached. A change of government would produce no change, in this respect. Can any man suppose, other things remaining the same, that the introduction of an hereditary sovereign, an order of nobility, a national church, a standing army, and a military police, would tend to a more general and more fruitful developement of mental energy, or greater leisure, on the part of educated men, to engage in literary pursuits? It is obviously as impossible, that any such effect should be produced, as that the supposed producing cause should be put in action, in this Country. By the terms of the supposition, if such a

change were made, the leading class of the community, the nobles, would be politicians, by birth; as much talent would be required to administer the state; as much physical activity, to defend it. If there were a class, as there probably would be, in the horizontal division of society, which exists under such governments, not taking an interest in politics, it would be that, which, under the name of the peasantry, supplies, in most other countries, the place of, perhaps, the most substantial, uncorrupted, and intelligent, population on earth,—the American Yeomanry. We are not left to theory, on this point. There are portions of the American Continent, earlier settled than the United States, governed, from the first, by absolute power, and possessing all the advantages, which can flow from what is called a strong government. It may be safely left to the impartial judgement of mankind, to compare the progress, either of general intelligence, or of higher literature, in those portions of the Continent, and in the United States.

Again, it cannot be thought a matter of little moment, that, under a free government, the cultivation of letters always has been, and unquestionably always will be, deemed as honorable a pursuit, as any, to which the attention can be devoted. Under other forms of government, a different standard of respectability exists. Hereditary rank, of necessity, takes precedence; and all the institutions of society are made to regard the accidents of birth as more important than personal merit. The choicest spirits of Europe, for ten generations, have been trained up to the feeling, that government and war are the only callings, worthy of noble blood. In those foreign countries, where the political institutions have been most improved, and the iron yoke of feudalism most effectually broken, that is, in other words, where the people have been restored to their rights, we behold, as the invariable consequence, a proportionate intellectual progress. What could be more preposterous, than to attribute this progress to the remnants of the

feudal system, which still remain, rather than to the free principles and popular institutions which have succeeded it; and to deny to such institutions, in their perfect organization, in this Country, a tendency to produce the same happy effects, which their partial introduction has every where else produced?

It cannot but be, that the permanent operation of a free system of constitutional and representative government, should be favorable to the culture of mind, because it is itself in conformity with that law of Nature, by which mind is distributed. The mental energy of a people, which you propose to call out, the intellectual capacity, which is to be cultivated and improved, has been equally diffused, throughout the land, by a sterner leveller, than ever marched in the van of a revolution, —the impartial providence of God. He has planted the germs of intellect, alike in the city and the country; by the beaten way-side, and in the secluded valley, and solitary hamlet. Sterling native character, strength and quickness of mind, the capacity for brilliant attainment, are not among the distinctions, which Nature has given, exclusively, to the higher circles of life. Too often, in quiet times, they perish, in the obscurity, to which a false organization of society consigns them. And the reason why, in dangerous, convulsed, and trying, times, there generally happens an extraordinary developement of talent, unquestionably is, that, in such times, whatever be the nominal form of the government, necessity, for the moment, proclaims the Republic.

What happens in a crisis of national fortune, under all governments, is, in this respect, the steady and natural operation of our political institutions. Their foundation, at last, is in dear Nature. They do not consign the greater part of the social system to torpidity and mortification. They send out a vital nerve, to every member of the community, however remote, by which it is brought into living conjunction and strong sympathy with the kindred intellect of the

nation. They encourage Nature to perfect her work, on the broadest scale. By providing systems of universal and cheap education, they multiply, indefinitely, the numbers of those to whom the path is opened, for further progress; and thus bring up remote, shrinking, unpatronized talent, into the cheerful field of competition. The practical operation of popular institutions of government provides, in innumerable ways, a demand for every species of intellectual effort, not merely within the circle of a capital, but throughout the land. In short, wherever man has been placed by Providence, endowed with rational capacities of improvement, there the genius of the republic visits him, with a voice of encouragement and hope. Every day, he receives, from the working of the social system, some new assurance, that he is not forgotten, in the multitude of the people. He is called to do some act, to assert some right, and to enjoy some privilege; and he is elevated, by this consciousness of his social importance, from the condition of the serf or the peasant, to that of the freeman and the citizen.

In thus maintaining, that the tendency of our popular institutions, at the present stage of our national progress, to excite a diffusive interest in politics, is in no degree unfriendly to the permanent intellectual improvement of the Country, it is not intended to assert, that the peculiar and original character of these institutions will produce no corresponding modification of our literature. The reverse is, unquestionably, the fact. It may safely be supposed, that, with the growth of the Country, in wealth and population, as the various occasions of a large, enterprising, and prosperous community, placed on the widest theatre of action ever opened to man, call into strong action, and vigorous competition, the cultivated talent of the Country, some peculiar tone, form, and proportion, will be given to its literature, by the nature of its political institutions, and the social habits founded on them. Literature, is but a more perfect communication of man with man, and

mind with mind. It is the judgement, the memory, the imagination; discoursing, recording, or musing aloud. It is the outward expression of the intellectual man; or, if not this, it is poor imitation. What, therefore, affects the man, affects the literature; and it may be assumed, as certain, that the peculiarity of our political institutions will be represented in the character of our intellectual pursuits. Government, war, commerce, manners, and the stage of social progress, are reflected in the literature of a country. No precedent exists, to teach us what direction the mind will most decisively take, under the strongest excitements to action, unrestrained by the power of government, but greatly influenced by public sentiment, throughout a vastly-extensive and highly-prosperous country, into which the civilization of older states has been rapidly transfused.

This condition of things is, evidently, entirely novel, and renders it impossible to foresee, what garments our native muses will weave to themselves. To foretell our literature would be to create it. There was a time, before an epic poem, a tragedy, an historical composition, or a forensic harangue, had ever been produced, by the wit of man. It was a time of vast and powerful empires, and of populous and wealthy cities. We have no reason to think, that any work, in either of those departments of literature, (with the exception, perhaps, of some meager chronicle, which might be called history,) was produced by the early Ethiopians, the Egyptians, or the Assyrians. Greece herself had been settled a thousand years, before the golden age of her literature. At length, the new and beautiful forms, in which human thought and passion developed themselves in that favored region, sprang up, and under the excitement of free political institutions. Before the epos, the drama, the oration, the history, appeared, it would, of course, have been idle for the philosopher to form conjectures, as to the paths, which would be struck out by the kindling genius of the age. He, who could form such an anticipation, could and would

realize it, and it would be anticipation no longer. The critic is ages behind the poet. Epic poetry was first conceived of, when the gorgeous vision of the Iliad, not in its full detail of circumstances, but in the dim fancy of its leading scenes and bolder features, burst into the soul of Homer.

Equally impossible to execute were the task to mark out, beforehand, the probable direction, in which the intellect of this Country will move, under the influence of institutions, as new and peculiar as those of Greece, and so organized, as to secure the best blessings of popular government, without the evils of anarchy. But if, as no one will deny, our political system brings more minds into action, on equal terms; extends the advantages of education, more equally, throughout the community; if it provide a prompter and wider circulation of thought; if, by raising the character of the masses, it swell, to tens of thousands and millions, those "sons of emulation, who crowd the narrow strait where honor travels," it would seem not too much, to anticipate new varieties and peculiar power in the literature, which is but the voice and utterance of all this mental action. The instrument of communication may receive improvement; the written and spoken language acquire new vigor; possibly, forms of address wholly new will be devised. Where great interests are at stake, great concerns rapidly succeeding each other, depending on almost innumerable wills, and yet requiring to be apprehended in a glance, and explained in a word; where movements are to be given to a vast population, not by transmitting orders, but by diffusing opinions, exciting feelings, and touching the electric cord of sympathy; there, language and expression will become intense, and the old processes of communication must put on a vigor and a directness, adapted to the condition of things.

Our Country is called, as it is, practical; but this is the element for intellectual action. No strongly-marked and high-toned literature, poetry, eloquence, or philosophy, ever appeared, but under the pressure of

great interests, great enterprises, perilous risks, and dazzling rewards. Statesmen, and warriors, and poets, and orators, and artists, start up under one and the same excitement. They are all branches of one stock. They form, and cheer, and stimulate, and, what is worth all the rest, understand, each other; and it is as truly the sentiment of the student, in the recesses of his cell, as of the soldier in the ranks, which breathes in the exclamation,

> "To all the sons of sense proclaim,
> One glorious hour of *crowded life*
> Is worth an age without a name."

Let us now inquire, how history and experience confirm the foregoing speculations. Here, we shall be met, at the outset, and reminded of the splendid patronage bestowed by strong governments on literature; patronage of a kind, which necessarily implies the centralization of the resources of the state, and is consequently inconsistent with a representative system. We shall be told of the rich establishments, and liberal pensions; of museums founded, libraries collected, and learned societies sustained; by Ptolemies, Augustuses, and Louises, of ancient and modern times. Then, we shall be directed to observe the fruit of this noble patronage, in the wonders of antiquarian and scientific lore, which it has ushered into the world; the Thesauruses and Corpuses, from which the emulous student, who would understand all things, recoils in horror, and in the contemplation of which, meek-eyed Patience folds her hands, in despair.

When we have reflected on these things, and turn our thoughts back to our poor republican land; to our frugal treasuries, and the caution with which they are dispensed; to our modest private fortunes, and the thrift with which they are, of necessity, hoarded; to our scanty public libraries, and the plain brick walls within which they are deposited;—we may be apt to form gloomy auguries of the influence of free political institutions on letters. Here, then, we might, with ad-

vantage, perhaps, scrutinize the real character of this vaunted patronage, and inquire what it has actually done for the pure original literature of any people. How much was unfruitful pomp and display, and how much mere favoritism; and of the expensive literary enterprises, to which I have alluded, how many may be compared to the Pyramids;—stupendous monuments of labor and power, of little value to the eye of taste, and of no benefit to man.

But let us examine, more carefully, the experience of former ages, and see how far their political institutions, as they have been more or less popular, have been more or less productive of intellectual excellence. When we make this examination, we shall be gratified to find, that the precedents are all in favor of liberty. The greatest efforts of human genius have been made, where the nearest approach to free institutions has taken place. There shone not forth one ray of intellectual light, to cheer the long and gloomy ages of the Memphian and Babylonian despots. Not an historian, not an orator, not a poet, as has been already observed, is heard of in their annals. When you ask, what was achieved by the generations of thinking beings,—the millions of men, whose natural genius was as bright as that of the Greeks, nay, who forestalled the Greeks, in the first invention of many of the arts,—you are told, that they built the pyramids of Memphis, the temples of Thebes, the tower of Babylon; and carried Sesostris and Ninus upon their shoulders, from the West of Africa to the Indus. Mark the contrast, in Greece. With the first emerging of that country, into the light of political liberty, the poems of Homer appear. Some centuries, alike of political confusion and literary darkness, follow, and then the great constellation of their geniuses seems to rise at once. The stormy eloquence and the deep philosophy, the impassioned drama and the grave history, were all produced for the entertainment of the "fierce democratie" of Athens.

Here, then, the genial influence of liberty on letters,

is strongly put to the test. Athens was certainly a free state; free to licentiousness, free to madness. The rich were arbitrarily pillaged, to defray the public expenses; the great were banished, to appease the envy of their rivals; the wise sacrificed to the fury of the populace. It was a state, in short, where liberty existed, with most of the imperfections, which have sometimes led the desponding to love and praise despotism. Still, however, it was for this lawless, merciless people, that the most chaste and accomplished literature, which the world has known, was produced. The philosophy of Plato was the attraction, which drew the young men of this factious city to a morning's walk in the olive gardens of the academy. Those tumultuous assemblies of Athens, which rose in their wrath, and to a man, and clamored for the blood of Phocion, required to be addressed in the elaborate and thrice-repeated orations of Demosthenes.

No! the noble and elegant arts of Greece grew up in no Augustan age. They enjoyed neither royal nor imperial patronage. Unknown, before, in the world, strangers on the Nile and on the Euphrates, they sprang, at once, into life, in a region not unlike our own New England,—iron-bound, sterile, but free. The imperial astronomers of Chaldæa went up almost to the stars, in their observatories; but it was a Greek, who first foretold an eclipse, and measured the year. Some happy genius in the East invented the alphabet, but not a line has reached us of profane literature, in any of their languages; and it is owing to the embalming power of Grecian genius, that the invention itself has been transmitted to the world. The Egyptian architects could erect structures, which, after three thousand years, are still standing, in their uncouth original majesty; but it was only on the barren soil of Attica, that the beautiful columns of the Parthenon and the Theseum could rest, which are standing also.

With the decline of liberty in Greece, began the decline of her letters and her arts, though her tumul-

tuous democracies were succeeded by liberal and accomplished princes. Compare the literature of the Alexandrian, with that of the Periclean age; how cold, pedantic, and imitative! Compare, I will not say, the axes, the eggs, the altars, and the other frigid devices of the pensioned wits in the museum at Alexandria, but compare their best productions, with those of independent Greece; Callimachus with Pindar, Lycophron with Sophocles, Aristophanes of Byzantium with Aristotle, and Apollonius the Rhodian with Homer. When we descend to Rome, to the Augustan age, the famed era of Mæcenas, we find one uniform work of imitation, often of translation. The choicest spirits seldom rise beyond a happy transfusion of the Grecian masters. Horace translates Alcæus, Terence translates Menander, Lucretius translates Epicurus, Virgil translates Homer, and Cicero, I had almost said, translates Demosthenes and Plato. But the soul of liberty did burst forth from the lips of Cicero; "her form had not yet lost all its original brightness;" her inspiration produced in him the only specimens of a purely original literature, which the Romans have transmitted to us. After him, their literary history is written in one line of Tacitus; *Gliscente adulatione, magna ingenia deterrebantur.** The fine arts revived, a little, under the princes of the Flavian house, but never rose higher than a successful imitation of the waning excellence of Greece, executed by her fugitive artists. With the princes of this line, the arts of Rome expired, and Constantine the Great was obliged to tear down an arch of Trajan for sculptures, to adorn his own. Finally, a long period of military and barbarous despotism succeeded, which buried letters and arts in one grave with national independence.

In modern times, the question, as to the distinct effect of political institutions on learning, has become greatly complicated, in consequence of the large number of separate states, into which the civilized world is

* As adulation increased, great minds were deterred.

divided, and the easy and rapid communication between them. The consequence is, that a powerful impulse, given to mind in one country, under the influence of causes favorable to its progress, may be felt, to some extent, in other countries, where no such causes exist. Upon the whole, however, the history of modern literature bears but cold testimony to the genial influence of the governments, under which it has grown up. Dante and Petrarch composed their beautiful works in exile; Boccaccio complains, in the most celebrated of his, that he was transfixed with the darts of envy and calumny; Machiavelli was pursued by the party of the Medici, for resisting their tyrannical designs; Guicciardini retired, in disgust, to compose his history, in voluntary exile; Galileo confessed, in the prisons of the Inquisition, that the earth did not move; Ariosto lived in poverty; and Tasso, the victim of dejection and despair.* Cervantes, after he had immortalized himself, in his great work, was obliged to write on, for bread. The whole French Academy was pensioned, to crush the great Corneille. Racine, after living to see his finest pieces derided, as cold and worthless, died of a broken heart. The divine genius of Shakspeare owed but little to patronage, for it raised him to no higher rank than that of a subaltern actor in his own, and Ben Jonson's plays. The immortal Bacon made disastrous wreck of his greatness, in a court, and is said, (falsely I trust,) to have begged a cup of beer, in his old age, and begged it in vain. The most valuable of the pieces of Selden were written in that famous resort of great minds, the tower of London. Milton, surprised by want, in his infirm old age, sold one of the first productions of the human mind for five pounds. The great boast of English philosophy was expelled from his place, in Oxford, and kept in banishment, "the King having been given to understand," to use the words of Lord Sunderland, who ordered the

* Martinelli, in his edition of the Decamerone, cited in the Introduction to Sidney's Discourses on Government, edition of 1751, p. 34.

expulsion, "that *one Locke* has, upon several occasions, behaved himself very factiously against the government." Dryden was compelled to sacrifice his genius, to the spur of immediate want. Otway was choked with a morsel of bread, too ravenously swallowed, after a long fast. Johnson was taken to prison, for a debt of five shillings; and Burke petitioned for a professorship at Glasgow, and was denied. When we consider these facts, and the innumerable others of which these are a specimen, we may probably be led to the conclusion, that the appearance of eminent geniuses, under the forms of government subsisting in Europe, furnishes no decisive proof that they are the most friendly to intellectual progress.

II. The next circumstance, worthy of mention, as peculiarly calculated to promote the progress of improvement, and to furnish motives to intellectual exertion, in this Country, is the extension of one government, one language, and, substantially, one character, over so vast a space as the United States of America. Hitherto, in the main, the world has seen but two forms of political government, free governments in small states, and arbitrary governments in large ones. Though various shades of both have appeared, at different times, in the world, yet, on the whole, the political ingenuity of man has never before devised the method of extending purely popular institutions, beyond small districts, or of governing large states, by any other means than military power. The consequence has been, that the favorable effect of free institutions, on intellectual progress, has never been developed, on the largest scale. But, though favorable to the improvement of the mind, under any circumstances, it is evident, that, in order to their full effect, in bringing forth the highest attainable excellence, they must be permanently established, in an extensive region and over a numerous people. Such is the state of things existing in this Country, and for the first time in the world, and for which we are indebted to the fearless application of the representative principle.

The effect upon literature must eventually be, to give elevation, dignity, and generous expansion, to every species of mental effort. A great nationality is the parent of great thoughts. Literature is the voice of the age and of the state. The extent, the resources, the destiny, of the Country are imaged forth in the conception of its leading minds. They are but the organs of the race from which they are descended, the land in which they live, and the patriotic associations under which they have been educated. These furnish their language and elevate their thoughts. Under an impulse like the prophetic enthusiasm of old, they feel and utter the sentiments, which are inspired by the system of which they are the members. As the mind goes forth, to enter into communion or conflict with millions of kindred spirits, over a mighty realm, it dilates, with a noble consciousness of its vocation. It disdains mean thoughts, and looks down on narrow interests; and strives to speak a noble word, which will touch the heart of a great people.

This necessary connexion between the extent of a country, and its intellectual progress, was, it is true, of more importance in antiquity, than it is at the present day, because, at that period of the world, owing to political causes, on which we have not time to dwell, there was, upon the whole, but one civilized and cultivated people, at a time, upon the stage; and the mind of one nation found no sympathy, and derived no aid, from the mind of another. Art and refinement followed in the train of political ascendancy, from the East to Greece, and from Greece to Rome. In the modern world, a combination of political, intellectual, and even mechanical, causes, (for the art of printing is among the most powerful of them,) has produced an extension of the highest civilization, over a large family of states, existing contemporaneously, in Europe and America. This circumstance might seem to mould the civilized portion of mankind into one republic of letters; and make it, comparatively, a matter of indifference to any

individual mind, whether its lot was cast in a small or a large, a weak or a powerful, state. It must be freely admitted, that this is, to some extent, the case; and it is one of the great advantages of the modern over the ancient civilization. And yet, a singular fatality immediately presents itself, to neutralize, in a great degree, the beneficial effects of this enlarged and diffused civilization on the progress of letters in any single state. It is true, that, instead of one sole country, as in antiquity, where the arts and refinements find a home, there are, in modern Europe, seven or eight, equally entitled to the general name of cultivated nations, and in each of which, some minds of the first order have appeared, And yet, by the *multiplication of languages*, an obstacle, all but insuperable, has been thrown in the way of the free progress of genius, in its triumphant course, from region to region. The muses of Shakspeare and Milton, of Camoens, of Lope de Vega and Calderon, of Corneille and Racine, of Dante and Tasso, of Gœthe and Schiller, are comparative strangers to each other. Certainly it is not intended, that these illustrious minds are unknown beyond the limits of the lands, in which they were trained, and to which they spoke. But who is ignorant, that not one of them finds a full and hearty response, from any other people but his own; nay, who does not know, that the writings of some of them are a sealed book, except to those who read them in the mother tongue?

This evil was so keenly felt, in the sixteenth and seventeenth centuries, that the Latin language was widely adopted as a dialect common to scholars. We see men like Luther, Calvin, Erasmus, Bacon, and Grotius, who could scarce have written a line, without exciting the admiration of their contemporaries, driven to the use of a tongue, which none but the learned could understand. For the sake of addressing the scholars of other countries, these great men, and others like them, in many of their writings, were willing to cut themselves off, from all sympathy with

the mass of those, whom, as patriots, they must have wished most to instruct. In works of pure science and learned criticism, this is of the less consequence; for, being independent of sentiment, it matters less, how remote from real life, the symbols by which their ideas are conveyed. But, when we see a writer, like Milton, who, as much as any other, whom England has ever produced, was a master of the music of his native tongue; who, besides all the beauty of thought and imagery, knew better than most other men, how to breathe forth his thoughts and images,

> "In notes, with many a winding bout,
> Of linked sweetness, long drawn out,
> With wanton heed and giddy cunning,
> The melting voice through mazes running,
> Untwisting all the chains that tie
> The hidden soul of harmony;"

when we see a master of English eloquence, thus gifted, choosing a dead language,—the dialect of the closet, a tongue without an echo from the hearts of the people,—as the vehicle of his defence of that people's rights; asserting the cause of Englishmen in the language, as it may be truly called, of Cicero; we can only measure the incongruity, by reflecting what Cicero would himself have thought and felt, if called to defend the cause of Roman freedom, not in the language of the Roman citizen, but in that of the Chaldeans or Assyrians, or some people still further remote in the history of the world. And yet, Milton could not choose but employ this language; for he felt that in this, and this alone, he could speak the word, "with which all Europe rang from side to side."

There is little doubt, that the prevalence of the Latin language, among modern scholars, was a great cause, not only of the slow progress of letters, among the lower ranks, but of the stiffness and constraint of the vernacular style of most scholars themselves, in the sixteenth and seventeenth centuries. That the reformation in religion advanced with such rapidity is, in no small de-

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gree, to be attributed to the translations of the Scriptures and the use of liturgies, in the modern tongues. The preservation, in legal acts, in England, of a strange language,—I will not offend the majesty of Rome, by calling it Latin,—down to so late a period as 1730, may be one reason, why the practical forms of administering justice have not been made to keep pace with the progress of reform, in some other departments. With the establishment of popular institutions, under Cromwell, among various other legal improvements,* very many of which were speedily adopted by our plain-dealing forefathers, the records of the law were ordered to be kept in English; "A novelty," says the learned commentator on the English laws, "which, at the Restoration, was no longer continued, practisers having found it very difficult to express themselves so *concisely* or significantly in any other language but Latin."†

Nor are the other remedies more efficacious, which have been attempted for the evil of a multiplicity of tongues. Something is done by translations, and something by the study of foreign languages. But that no effectual transfusion of the higher literature of a country can take place, in the way of translation, is matter of notoriety; and it is a remark of one of the few, who could have courage to make such a remark, Madame de Stael, that it is impossible, fully to comprehend the literature of a foreign tongue. The general preference, till lately, given to Young's Night Thoughts and Ossian, over all the other English poets, in many parts of the continent of Europe, seems to confirm the justice of the observation.

There is, indeed, an influence of exalted genius, coextensive with the earth. Something of its power will be felt, in spite of the obstacles of different languages, remote regions, and other times. But its true empire,

* See a number of them, in Lord Somers's Tracts, Vol. I.

† Blackstone's Commentaries, Vol. III. p. 422.

its sovereign sway, must be felt at home, and over the hearts of kindred men. A charm, which nothing can borrow, nothing counterfeit, and for which there is no substitute, dwells in the simple sound of our mother tongue. Not analyzed, nor reasoned upon, it unites the simple associations of early life with the maturest conceptions of the understanding. The heart is willing to open all its avenues to the language, in which its infantile caprices were soothed; and, by the curious efficacy of the principle of association, it is this echo from the feeble dawn of life, which gives to eloquence much of its manly power, and to poetry much of its divine charm. This intelligence of the import of our native language, is the first intellectual capacity that is developed in children, and when, by age or misfortune,

> "the ear is all unstrung,
> Still, still, it loves the lowland tongue."

What a noble prospect is opened, in this connexion, for the circulation of thought and sentiment in our country! Instead of that multiplicity of dialect, by which mental communication and sympathy between different nations are cut off in the Old World, a continually expanding realm is opened to American intellect, in the community of our language, throughout the wide spread settlements of this Continent. The enginery of the press is here, for the first time, brought to bear, with all its mighty power, on the minds and hearts of men, in exchanging intelligence, and circulating opinions, unchecked by diversity of language, over an empire more extensive than the whole of Europe.

And this community of language, all important as it is, is but a part of the manifold brotherhood, which already unites the growing millions of America. In Europe, the work of international alienation, which begins in diversity of language, is consummated by diversity of government, institutions, national descent, and national prejudices. In crossing the principal rivers, channels, and mountains, in that quarter of the world, you are

met, not only by new tongues, but by new forms of government, new associations of ancestry, new and often hostile objects of national pride and attachment. While, on the other hand, throughout the vast regions included within the limits of our republic, not only the same language, but the same laws, the same national government, the same republican institutions, and common ancestral associations prevail. Mankind will here exist and act in a kindred mass, such as was scarcely ever before congregated on the earth's surface. The necessary consequences of such a cause overpower the imagination. What would be the effect, on the intellectual state of Europe, at the present day, were all her nations and tribes amalgamated into one vast empire, speaking the same tongue, united into one political system, and that a free one, and opening one broad, unobstructed pathway for the interchange of thought and feeling, from Lisbon to Archangel? If effects must bear a constant proportion to their causes; if the energy of thought is to be commensurate with the masses which prompt it, and the masses it must penetrate; if eloquence is to grow in fervor with the weight of the interests it is to plead, and the grandeur of the assemblies it addresses; if efforts rise with the glory that is to crown them; in a word, if the faculties of the human mind, as we firmly believe, are capable of tension and achievement altogether indefinite;

Nil actum reputans, dum quid superesset agendum ;*

then, it is not too much to say, that a new era will open on the intellectual world, in the fulfilment of our Country's prospects.

By the sovereign efficacy of the partition of powers between the National and State governments, in virtue of which the National government is relieved from all the odium of internal administration, and the State governments are spared the conflicts of foreign politics, all bounds seem removed from the possible ex-

* "Thinking nought done, while aught remains to do."

tension of our country, but the geographical limits of the continent. Instead of growing cumbrous, as it increases in size, there never was a moment, since the first settlement in Virginia, when the political system of America moved with so firm and bold a step, as at the present day. Should our happy Union continue, this great continent, in no remote futurity, will be filled up with a homogeneous population; with the mightiest kindred people known in history; our language will acquire an extension, which no other ever possessed; and the empire of the mind, with nothing to resist its sway, will attain an expansion, of which, as yet, we can but partly conceive. The vision is too magnificent to be fully borne;—a mass of two or three hundred millions, not chained to the oar, like the same number in China, by a stupefying despotism, but held in their several orbits of nation and state, by the grand representative attraction; bringing to bear, on every point, the concentrated energy of such a host; calling into competition so many minds; uniting, into one great national feeling, the hearts of so many freemen; all to be guided, persuaded, moved, and swayed, by the master spirits of the time!

III. Let me not be told that this is a chimerical imagination of a future indefinitely removed; let me not hear repeated the poor jest of an anticipation of "two thousand years,"—of a vision, that requires for its fulfilment, a length of ages beyond the grasp of any reasonable computation. It is the last point of peculiarity in our condition, to which I invite your attention, as affecting the progress of intellect, that the country is growing, with a *rapidity*, hitherto entirely without example in the world. For the two hundred years of our existence, the population has doubled itself in periods of less than a quarter of a century. In the infancy of the country, and while our numbers remained within the limits of a youthful colony, a progress so rapid as this, however important, in the principle of growth disclosed, was not yet a circumstance strongly to fix the attention.

But, arrived at a population of ten millions, it is a fact of extreme interest, that, within less than twenty-five years, these ten millions will have swelled to twenty; that the younger members of this audience will be citizens of the largest civilized state on earth; that, in a few years more than one century, the American population will equal the fabulous numbers of the Chinese empire. This rate of increase has already produced the most striking phenomena. A few weeks after the opening of the Revolutionary drama, at Lexington, the momentous intelligence, that the first blood was spilt, reached a party of hunters beyond the Alleghanies, who had wandered far into the western wilderness. In prophetic commemoration of the glorious event, they gave the name of Lexington to the spot of their encampment in the woods. That spot is now the capital of a State as large as Massachusetts; from which, in the language of one of her own citizens, whose eloquence is the ornament of his country, the tide of emigration, still further westward, is more fully pouring, than from any other in the Union.*

I need not say, that this astonishing increase of numbers is by no means the best measure of our country's growth. Arts, agriculture, all the great national interests, all the sources of national wealth, are growing in a ratio still more rapid. In our cities, the intensest activity is apparent; in the country, every spring of prosperity, from the smallest improvement in husbandry, to the constructions of canals and rail-roads across the continent, is in vigorous action. Abroad, our vessels are beating the pathways of the ocean white; on the inland frontier, the nation is journeying on, like a healthy giant, with a pace more like romance, than reality.

These facts, and thousands like them, form one of those peculiarities in our country's condition, which will have the most powerful influence on the minds of its children. The population of some of the states of Eu-

* Mr. Clay's Speech on Internal Improvement.

rope has reached its term. In some, it is declining, in some stationary; and in the most prosperous, under the extraordinary impulse of the last part of the eighteenth century, it doubles itself but about once in seventy-five years. In consequence of this, the process of social transmission is heavy and slow. Men, not adventitiously favored, come late into life, and the best years of existence are exhausted in languishing competition. The man grows up, and, in the stern language of one of their most renowned economists,* finds no cover laid for him, at Nature's table. The smallest official provision is a boon, at which great minds are not ashamed to grasp; the assurance of the most frugal subsistence, commands the brightest talents, and the most laborious studies; poor wages pay for the unremitted labor of the most curious hands; and it is the smallest part of the population, only, that is within the reach even of these humiliating springs of action.

We need not labor to contrast this state of things with the teeming growth and rapid progress of our own Country. Instead of being shut up, as it were, in the prison of a stationary, or a slowly progressive, community, the emulation of our countrymen is drawn out and tempted on, by an horizon constantly receding before them. New nations of kindred freemen are springing up, in successive periods, shorter, even, than the active portion of the life of man. "While we spend our time," says Burke, on this topic, "in deliberating on the mode of governing two millions in America, we shall find we have millions more to manage."† Many individuals are in this house, who were arrived at years of discretion, when these words of Burke were uttered, and the two millions, which Great Britain was then to manage, have grown into ten, exceedingly unmanageable. The most affecting view of this subject is, that it puts it in the power of the wise, and good, and great, to

* Mr. Malthus.

† Speech on Conciliation with America, March 22, 1775.

gather, while they live, the ripest fruits of their labors. Where, in human history, is to be found a contrast, like that, which the last fifty years have crowded into the lives of those favored men, who, raising their hands or their voices, when our little bands were led out to the perilous conflict with one of the most powerful empires on earth, have lived to be crowned with the highest honors of the Republic, which they established? Honor to their gray hairs, and peace and serenity to the evening of their eventful days!

Though it may never again be the fortune of our country to bring within the compass of half a century a contrast so dazzling as this, yet, in its grand and steady progress, the career of duty and usefulness will be run by all its children, under a constantly increasing excitement. The voice, which, in the morning of life, shall awaken the patriotic sympathy of the land, will be echoed back, by a community, incalculably swelled, in all its proportions, before that voice shall be hushed in death. The writer, by whom the noble features of our scenery shall be sketched, with a glowing pencil, the traits of our romantic early history gathered up, with filial zeal, and the peculiarities of our character seized, with delicate perception, cannot mount so rapidly to success, but that ten years will add new millions to the numbers of his readers. The American statesman, the orator, whose voice is already heard in its supremacy, from Florida to Maine, whose intellectual empire already extends beyond the limits of Alexander's, has yet new states and new nations starting into being, the willing subjects of his sway.

This march of our population, westward, has been attended with consequences, in some degree novel, in the history of the human mind. It is a fact, somewhat difficult of explanation, that the refinement of the ancient nations seemed comparatively devoid of an elastic and expansive principle. With the exception of the colonies in Asia Minor, the arts of Greece were enchained to her islands and her coasts; they did not

penetrate the interior, at least, not in every direction. The language and literature of Athens were as much unknown, to the north of Pindus, at a distance of two hundred miles from the capital of Grecian refinement, as they were in Scythia. Thrace, whose mountain tops may almost be seen from the porch of the temple of Minerva, at Sunium, was the proverbial abode of barbarism. Though the colonies of Greece were scattered on the coasts of Asia, of Italy, of France, of Spain, and of Africa, no extension of their population, far inward, took place, and the arts did not penetrate beyond the walls of the cities, where they were cultivated.

How different is the picture of the diffusion of the arts and improvements of civilization, from the coast to the interior of America! Population advances westward, with a rapidity, which numbers may describe, indeed, but cannot represent, with any vivacity, to the mind. The wilderness, which one year is impassable, is traversed, the next, by the caravans of the industrious emigrants, who go to follow the setting sun, with the language, the institutions, and the arts, of civilized life. It is not the irruption of wild barbarians, sent to visit the wrath of God on a degenerate empire; it is not the inroad of disciplined banditti, marshalled by the intrigues of courts and kings. It is the human family, led out to possess its broad patrimony. The states and nations, which are springing up in the valley of the Missouri, are bound to us, by the dearest ties of a common language, a common government, and a common descent. Before New England can look with coldness on their rising myriads, she must forget that some of the best of her own blood is beating in their veins; that her hardy children, with their axes on their shoulders, have been among the pioneers, in this march of humanity; that, young as she is, she has become the mother of populous states. What generous mind would sacrifice, to a selfish preservation of local preponderance, the delight of beholding civilized nations rising up in the desert; and the language, the manners, the institu-

tions, to which he has been reared, carried, with his household gods, to the foot of the Rocky Mountains? Who can forget, that this extension of our territorial limits is the extension of the empire of all we hold dear; of our laws, of our character, of the memory of our ancestors, of the great achievements in our history? Whithersoever the sons of the thirteen States shall wander, to southern or western climes, they will send back their hearts to the rocky shores, the battle fields, the infant settlements, of the Atlantic coast. These are placed beyond the reach of vicissitude. They have become already matter of history, of poetry, of eloquence.

Divisions may spring up, ill blood may burn, parties be formed, and interests may seem to clash; but the great bonds of the nation are linked to what is passed. The deeds of the great men, to whom this Country owes its origin and growth, are a patrimony, I know, of which its children will never deprive themselves. As long as the Mississippi and the Missouri shall flow, those men, and those deeds, will be remembered on their banks. The sceptre of government may go, where it will; but that of patriotic feeling can never depart from Judah. In all that mighty region, which is drained by the Missouri and its tributary streams,—the valley coextensive, in this Country, with the temperate zone,—will there be, as long as the name of America shall last, a father, that will not take his children on his knee, and recount to them the events of the twenty-second of December, the nineteenth of April, the seventeenth of June, and the fourth of July?

This, then, is the theatre, on which the intellect of America is to appear, and such, the motives to its exertion; such, the mass to be influenced by its energies; such, the crowd to witness its efforts; such, the glory to crown its success. If I err, in this happy vision of my country's fortunes, I thank God, for an error so animating. If this be false, may I never know the truth. Never may you, my friends, be under any other feeling, than that a great, a growing, an immeasurably

expanding, country is calling upon you for your best services. The name and character of our Alma Mater have already been carried by some of our brethren thousands of miles from her venerable walls; and thousands of miles still further westward, the communities of kindred men are fast gathering, whose minds and hearts will act in sympathy with yours.

The most powerful motives call on us, as scholars, for those efforts, which our common country demands of all her children. Most of us are of that class, who owe whatever of knowledge has shone into our minds, to the free and popular institutions of our native land. There are few of us, who may not be permitted to boast, that we have been reared in an honest poverty, or a frugal competence, and owe every thing to those means of education, which are equally open to all. We are summoned to new energy and zeal, by the high nature of the experiment we are appointed in Providence to make, and the grandeur of the theatre on which it is to be performed. At a moment of deep and general agitation, in the old world, it pleased Heaven to open this last refuge of humanity. The attempt has begun, and is going on, far from foreign corruption, on the broadest scale, and under the most benignant prospects; and it certainly rests with us to solve the great problem in human society; to settle, and that forever, the momentous question,—whether mankind can be trusted with a purely popular system?

One might almost think, without extravagance, that the departed wise and good, of all places and times, are looking down, from their happy seats, to witness what shall now be done by us; that they, who lavished their treasures and their blood, of old, who labored and suffered, who spake and wrote, who fought and perished, in the one great cause of Freedom and Truth, are now hanging from their orbs on high, over the last solemn experiment of humanity. As I have wandered over the spots, once the scene of their labors, and mused among the prostrate columns of their Senate Houses

and Forums, I have seemed almost to hear a voice, from the tombs of departed ages; from the sepulchres of the nations, which died before the sight. They exhort us, they adjure us, to be faithful to our trust. They implore us, by the long trials of struggling humanity; by the blessed memory of the departed; by the dear faith, which has been plighted by pure hands, to the holy cause of truth and man; by the awful secrets of the prison houses, where the sons of freedom have been immured; by the noble heads which have been brought to the block; by the wrecks of time, by the eloquent ruins of nations, they conjure us not to quench the light which is rising on the world. Greece cries to us, by the convulsed lips of her poisoned, dying Demosthenes; and Rome pleads with us, in the mute persuasion of her mangled Tully. They address us, each and all, in the glorious appeal of Milton, to one, who might have canonized his memory in the hearts of the friends of liberty, but who did most shamefully betray the cause: "Reverere tantam de te expectationem, spem patriæ de te unicam. Reverere vultus et vulnera tot fortium virorum, quotquot pro libertate tam strenue decertârunt, manes etiam eorum qui in ipso certamine occubuerunt. Reverere exterarum quoque civitatum existimationem de te atque sermones; quantas res de libertate nostrâ tam fortiter partâ, de nostrâ republicâ tam gloriose exortâ sibi polliceantur; quæ si tam cito quasi aborta evanuerit, profecto nihil æque dedecorosum huic genti atque periculosum fuerit."*

Yes, my friends, such is the exhortation, which calls on us to exert our powers, to employ our time, and

* Have regard to the expectations which are formed of you, to the singular hope which your Country reposes in your character. Reverence the countenances and the wounds of so many brave men, who have thus strenuously fought for liberty, yea, the memory of those, who have fallen in the contest. Respect the judgement and the language of foreign nations, concerning you; the lofty anticipations which they have cherished of our liberty, so bravely achieved, and of our commonwealth, so nobly established; which, if destined so rapidly to perish, as an untimely birth, truly there could be nothing equally disgraceful and perilous for this people.—*Milton's Defensio Secunda.*

consecrate our labors, in the cause of our native land. When we engage in that solemn study, the history of our race; when we survey the progress of man, from his cradle in the East, to these limits of his wandering; when we behold him forever flying westward from civil and religious thraldom, over mountains and seas, seeking rest and finding none, but still pursuing the flying bow of promise, to the glittering hills which it spans in Hesperian climes, we cannot but exclaim, with Bishop Berkeley, the generous prelate of England, who bestowed his benefactions, as well as blessings, on our Country;

> "Westward the course of Empire takes its way;
> The four first acts already past,
> A fifth shall close the drama with the day;
> Time's noblest offspring is the last."

In that high romance, if romance it be, in which the great minds of antiquity sketched the fortunes of the ages to come, they pictured to themselves a favored region beyond the ocean; a land of equal laws and happy men. The primitive poets beheld it, in the Islands of the Blest; the Doric bards fancied it, in the Hyperborean regions; the Sage of the Academy placed it in the lost Atlantis; and even the sterner spirit of Seneca could discern a fairer abode of humanity, in distant regions then unknown. We look back upon these uninspired predictions, and almost recoil from the obligation they imply. By us must these bright dreams be realized, by us must be fulfilled these high visions, which burst in trying hours upon the longing hearts of the champions of truth. There are no more continents or worlds to be revealed; Atlantis hath arisen from the ocean; the furthest Thule is reached; there are no more retreats beyond the sea, no more discoveries, no more hopes.

Here, then, a mighty work is to be performed, or never, by the race of mortals. The *man*, who looks with tenderness on the sufferings of good men in other times; the *descendant of the Pilgrims*, who cherishes

the memory of his fathers; the *patriot*, who feels an honest glow at the majesty of the system of which he is a member; the *scholar*, who beholds, with rapture, the long-sealed book of truth opened for all to read without prejudice; these are they, by whom these auspices are to be accomplished. Yes, brethren, it is by the intellect of the country, that the mighty mass is to be inspired; that its parts are to communicate and sympathize with each other, its natural progress to be adorned with becoming refinements, its strong sense uttered, its principles asserted, its feelings interpreted to its own children, to other regions, and to after ages.

Meantime, the years are rapidly passing away and gathering importance in their course. With the present year, [1824,] will be completed the half century from that most important era in human history,—the commencement of our Revolutionary War. The jubilee of our national existence is at hand. The space of time, that has elapsed, since that momentous date, has laid down in the dust, which the blood of many of them had already hallowed, most of the great men to whom, under Providence, we owe our national existence and privileges. A few still survive among us, to reap the rich fruits of their labors and sufferings; and ONE* has yielded himself to the united voice of a people, and returned, in his age, to receive the gratitude of the nation, to whom he devoted his youth. It is recorded, on the pages of American history, that when this friend of our country applied to our commissioners, at Paris, in 1776, for a passage in the first ship they should despatch to America, they were obliged to answer him, (so low and abject was then our dear native land,) that they possessed not the means, nor the credit, sufficient for providing a single vessel, in all the ports of France. "Then," exclaimed the youthful hero, "I will provide my own;" and it is a literal fact, that, when all America was too poor, to offer him so

* General Lafayette was present, at the delivery of this Address.

much as a passage to her shores, he left, in his tender youth, the bosom of home, of happiness, of wealth, of rank, to plunge in the dust and blood of our inauspicious struggle!

Welcome, friend of our fathers, to our shores! Happy are our eyes, that behold those venerable features! Enjoy a triumph, such as never conqueror nor monarch enjoyed, the assurance, that, throughout America, there is not a bosom, which does not beat with joy and gratitude, at the sound of your name! You have already met and saluted, or will soon meet, the few that remain, of the ardent patriots, prudent counsellors, and brave warriors, with whom you were associated, in achieving our liberty. But you have looked round, in vain, for the faces of many, who would have lived years of pleasure on a day like this, with their old companion in arms and brother in peril. Lincoln, and Greene, and Knox, and Hamilton, are gone; the heroes of Saratoga and Yorktown have fallen, before the enemy that conquers all. Above all, the first of heroes and of men, the friend of your youth, the more than friend of his Country, rests in the bosom of the soil he redeemed. On the banks of his Potomac, he lies in glory and in peace. You will revisit the hospitable shades of Mount Vernon, but him, whom you venerated as we did, you will not meet at its door. His voice of consolation, which reached you in the dungeons of Olmutz, cannot now break its silence, to bid you welcome to his own roof. But the grateful children of America will bid you welcome, in his name. Welcome! thrice welcome! to our shores! and whithersoever, throughout the limits of the continent, your course shall take you, the ear that hears you shall bless you, the eye that sees you shall give witness to you, and every tongue exclaim, with heartfelt joy, Welcome! welcome, La Fayette!

FIRST SETTLEMENT OF NEW ENGLAND.*

Amidst all the proud and grateful feelings, which the return of this anniversary must inspire, in the bosom of every child of New England, a deep solicitude oppresses me, lest I should fail in doing justice to the men and to the events, which we are met to commemorate. This solicitude, I would hope, is no mere personal feeling. I should be unworthy to address you, on this occasion, could I, from the selfish desire of winning your applause, devote the moments of this consecrated day to any cold speculations, however ingenious or original. Gladly would I give utterance to the most familiar commonplaces, could I be so happy in doing it, as to excite or strengthen the feelings, which belong to the time and the place. Gladly would I repeat to you those sentiments, which have been so often uttered and welcomed on this anniversary; sentiments, whose truth does not change in the change of circumstances; whose power does not wear out with time. It is not by pompous epithets or lively antitheses,that the exploits of the Pilgrims are to be set forth by their children. We can only do this worthily, by repeating the plain tale of their sufferings, by dwelling on the circumstances, under which their memorable enterprise was executed, and by catching that spirit, which led them across the ocean, and guided them to the spot where we stand. We need no voice of artificial rhetoric, to celebrate their names. The bleak and deathlike desolation of Nature proclaims, with touching eloquence, the fortitude and patience of the meek adventurers. On the bare and wintry fields around us, their exploits are written, in characters, which will last, and tell their tale to posterity, when brass and marble have crumbled into dust.

* Oration delivered at Plymouth, December, 22, 1824.

The occasion, which has called us together, is certainly one, to which no parallel exists, in the history of the world. Other countries have their national festivals. They commemorate the birthdays of their illustrious children; they celebrate the foundation of important institutions. Momentous events, victories, reformations, revolutions, awaken, on their anniversaries, the grateful and patriotic feelings of posterity. But we commemorate the birthday of all New England; the foundation, not of one institution, but of all the institutions, the settlements, the communities, the societies, the improvements, comprehended within our broad and favored borders.

Were it only as an act of rare adventure; were it a trait in foreign, or ancient history; we should fix upon the achievement of our fathers, as one of the noblest deeds, in the annals of the world. Were we attracted to it, by no other principle, than that sympathy we feel, in all the fortunes of our race, it could lose nothing, it must gain, in the contrast, with whatever history or tradition has preserved to us of the wanderings and settlements of the tribes of man. A continent, for the first time, effectually explored; a vast ocean, traversed by men, women, and children, voluntarily exiling themselves from the fairest portions of the Old World; and a great nation grown up, in the space of two centuries, on the foundations, so perilously laid, by this pious band:—point me to the record, to the tradition, nay, to the fiction, of any thing, that can enter into competition with it. It is the language, not of exaggeration, but of truth and soberness, to say, that there is nothing, in the accounts of Phœnician, of Grecian, or of Roman colonization, that can stand in the comparison.

What new importance, then, does not the achievement acquire for us, when we consider, that it was the deed of our fathers; that this grand undertaking was accomplished on the spot where we dwell; that the mighty region, they explored, is our native land; that the unrivalled enterprise, they displayed, is not merely

a fact, proposed to our admiration, but is the source of our being; that their cruel hardships are the spring of our prosperity; that their weary banishment gave us a home; that to their separation from every thing which is dear and pleasant in life, we owe all the comforts, the blessings, the privileges, which make our lot the envy of mankind!

These are the wellknown titles of our ancestors, to our gratitude and veneration.

But there seems to me this peculiarity, in the nature of their enterprise, that its grand and beneficent consequences are, with the lapse of time, constantly unfolding themselves, in an extent, and to a magnitude, beyond the reach of the most sanguine promise. In the frail condition of human affairs, we have often nothing left us to commemorate, but heroic acts of valor, which have resulted in no permanent effect; great characters, that have struggled nobly, but in vain, against the disastrous combinations of the times; and brilliant triumphs of truth and justice, rendered, for the present, unproductive, by untoward and opposite events. It is almost the peculiar character of the enterprise of our pilgrim forefathers,—successful, indeed, in its outset,—that it has been more and more successful, at every subsequent point, in the line of time. Accomplishing all they 'projected; what they projected was the least part of what has been accomplished. Forming a design, in itself grand, bold, and even appalling, for the risks and sacrifices it required; the fulfilment of that design is the least thing, which, in the steady progress of events, has flowed from their counsels and their efforts. Did they propose to themselves a refuge, beyond the sea, from the religious and political tyranny of Europe? They achieved not that, alone, but they have opened a wide asylum to all the victims of oppression throughout the world. We, ourselves, have seen the statesmen, the generals, the kings, of the elder world, flying, for protection, to the shadow of our institutions. Did they look for a retired spot, inoffen-

sive for its obscurity, and safe in its remoteness, where the little church of Leyden might enjoy the freedom of conscience? Behold the mighty regions, over which, in peaceful conquest,—*victoria sine clade*,*—they have borne the banners of the cross! Did they seek, beneath the protection of trading charters, to prosecute a frugal commerce, in reimbursement of the expenses of their humble establishment? The fleets and navies of their descendants are on the furthest ocean; and the wealth of the Indies is now wafted, with every tide, to the coasts, where, with hook and line, they painfully gathered up their humble earnings. In short, did they, in their brightest and most sanguine moments, contemplate a thrifty, loyal, and prosperous, colony, portioned off, like a younger son of the imperial household, to an humble and dutiful distance? Behold the spectacle of an independent and powerful Republic, founded on the shores, where some of those are but lately deceased, who saw the first-born of the pilgrims!

And shall we stop here? Is the tale now told; is the contrast now complete; are our destinies all fulfilled; are we declining, or even stationary? My friends, I tell you, we have but begun; we are in the very morning of our days; our numbers are but a unit; our national resources, but a pittance; our hopeful achievements in the political, the social, and the intellectual, nature, are but the rudiments of what the children of the Pilgrims must yet attain. If there is any thing certain, in the principles of human and social progress; if there is any thing clear in the deductions from past history; if there is any, the least, reliance to be placed on the conclusions of reason, in regard to the nature of man,—the existing spectacle of our country's growth, magnificent as it is, does not suggest even an idea of what it must be. I dare adventure the prediction, that he, who, two centuries hence, shall stand where I stand, and look back on our present condition,

* Conquest without slaughter.

from a distance, equal to that from which we contemplate the first settlement of the Pilgrims, will sketch a contrast far more astonishing; and will speak of our times, as the day of small things, in stronger and juster language, than any in which we can depict the poverty and wants of our fathers.

But we ought to consecrate this day, not to the promise, nor even the present blessings, of our condition, except so far as these are connected with the memory of the Pilgrims. The twenty-second of December belongs to them; and we ought, in consistency, to direct our thoughts to the circumstances, under which their most astonishing enterprise was achieved. I shall hope to have contributed my mite towards our happy celebration, if I can succeed in pointing out a few of those circumstances, of the first emigration to our country, and particularly of the first emigration to New England, from which, under a kind Providence, has flowed, not only the immediate success of the undertaking, but the astonishing train of consequences, auspicious to the cause of liberty, humanity, and truth.

I. Our forefathers regarded, with natural terror, the passage of the mighty deep. Navigation, notwithstanding the great advances which it had made in the sixteenth century, was yet, comparatively speaking, in its infancy. The very fact, that voyages of great length and hazard were successfully attempted, in small vessels, (a fact, which, on first view, might seem to show a high degree of perfection in the art,) in reality proves, that it was as yet but imperfectly understood. That the great Columbus should put to sea, for the discovery of a new passage across the Western Ocean to India, with two out of three vessels unprovided with decks, may, indeed, be considered the effect, not of ignorance of the art of navigation, but of bitter necessity. But that Sir Francis Drake, near a hundred years afterwards, the first naval commander who ever sailed round the earth, enjoying the advantage of the royal patronage, and aided

by the fruits of no little personal experience, should have embarked on his voyage of circumnavigation, with five vessels, of which the largest was of one hundred, and the smallest of fifteen, tons,* must be regarded as proof, that the art of navigation, in the generation preceding our ancestors, had not reached that point, where the skilful adaptation of means to ends supersedes the necessity of extraordinary intrepidity, aided by not less extraordinary good fortune. It was, therefore, the first obstacle, which presented itself to the project of the Pilgrims, that it was to be carried into execution, across the ocean, which separates our continent from the rest of the world. Notwithstanding, however, this circumstance, and the natural effect it must have had on their minds, there is no doubt, that it is one of those features, in our natural situation, to which America is indebted, not merely for the immediate success of the enterprise of settlement, but for much of its subsequent prosperity.

The rest of the world, though nominally divided into three continents, in reality consists of but one. Europe, Asia, and Africa, are separated by no natural barriers, which it has not been easy, in every age, for an ambitious invader to pass. The consequence has been, on the whole, unfavorable to social progress. The extent of country, inhabited, or rather infested, by barbarous tribes, has always far outweighed the civilized portions. More than once, in the history of the world, refinement, learning, arts, laws, and religion, with the wealth and prosperity they have created, have been utterly swept away, and the hands moved back, on the dial-plate of time, in consequence of the irruption of savage hordes into civilized regions. Were the early annals of the East, as amply preserved, as those of the Roman empire, they would, probably, present us with accounts of revolutions on the Nile, and the Euphrates, as disastrous as those, by which the civil-

* Biographia Britannica, III. 1732.

ized world was shaken, in the first centuries of the Christian era. Till an ocean interposes its mighty barrier, no region is secure from foreign violence. The magnificent temples of Egypt were demolished, in the sixth century before our Saviour, by the hordes, which Cambyses had collected from the *steppes* of Central Asia. The vineyards of Burgundy were wasted, in the third century of our era, by roving savages, from beyond the Caucasus. In the eleventh century, Gengis Khan and his Tartars swept Europe and Asia, from the Baltic to the China Sea. And Ionia and Attica, the gardens of Greece, are still, under the eyes of the leading Christian powers of Europe, beset by remorseless barbarians, whose fathers issued, a few centuries ago, from the Altai Mountains.

Nor is it the barbarians, alone, who have been tempted, by this facility of communication, to a career of boundless plunder. The Alexanders and the Cæsars, the Charlemagnes and the Napoleons, the founders of great empires, the aspirers at universal monarchy, have been enabled, by the same circumstance, to turn the annals of mankind into a tale of war and misery. When we descend to the scrutiny of single events, we find that the nations, who have most frequently and most immediately suffered, have been those, most easily approached and overrun; and that those, who have longest or most uniformly maintained their independence, have done it, by virtue of lofty mountains, wide rivers, or the surrounding sea.

In this state of things, the three united continents of the Old World do not contain a single spot, where any grand scheme of human improvement could be attempted, with a prospect of fair experiment and full success, because there is no spot, safe from foreign interference; and no member of the general system, so insignificant, that his motions are not watched, with jealousy, by all the rest. The welfare and progress of man, in the most favored region, instead of proceeding, in a free and natural course, dependent on the organization and con-

dition of that region alone, can only reach the point, which may be practicable in the general result of an immensely-complicated system, made up of a thousand jarring members.

Our country accordingly opened, at the time of its settlement, and still opens, a new theatre of human developement. Notwithstanding the prodigious extent of commercial intercourse, and the wide grasp of naval power, among modern states, and their partial effect in bringing us into the political system of Europe, we are yet essentially strangers to it; placed at a distance which retards, and for every injurious purpose, neutralizes, all peaceful communication, and defies all hostile approach. To this, it was owing, that so little was here felt of the convulsions of the civil wars, which followed in England, soon after the emigration of our fathers. To this, in a more general view, we are indebted, for many of our peculiarities as a nation; for our steady colonial growth, our establishment of independence, our escape amidst the political storms, which, during the last thirty years, have shaken the empires of the earth. To this, we shall still be indebted, and more and more, with the progress of our Country, for the originality and stability of national character. Hitherto, the political effects of our seclusion, behind the mighty veil of waters, have been the most important. Now, that our political foundations are firmly laid; that the work of settlement, of colonization, of independence, and of union, is all done, and happily done, we shall reap, in other forms, the salutary fruits of our remoteness from the centres of foreign opinion and feeling.

I say not this, in direct disparagement of foreign states; their institutions are doubtless as good, in many cases, as the condition of things now admits; or, when at the worst, could not be remedied by any one body, nor by any one generation, of men. But, without disparaging foreign institutions, we may be allowed to prefer our own; to assert their excellence, to seek to main-

tain them on their original foundations, on their true principles, and in their unmingled purity. That great word, Independence, which, if first uttered in 1776, was most auspiciously anticipated in 1620, comprehends much more, than a mere absence of foreign jurisdiction. I could almost say, that if it rested there, it would scarcely be worth asserting. In every noble, in every true, acceptation, it implies, not merely an American government, but an American character, an American feeling. To the formation of these, nothing will more powerfully contribute, than our geographical distance from other parts of the world.

In these views, there is nothing unsocial; nothing hostile to a friendly and improving connexion of distant regions with each other, or to the profitable interchange of the commodities, which a bountiful Providence has variously scattered over the earth. For these, and all other desirable ends, the perfection, to which the art of navigation is brought, affords abundant means of conquering the obstacles of distance. At this moment, the trade of America has penetrated to the interior of Asia Minor, the plains of Tartary, the centre of Hindostan and China, and the remotest isles of the Indian ocean. While ambition and policy, by intrigue and bloodshed, are contesting the possession of a few square miles of territory, our peaceful commerce has silently extended its jurisdiction, from island to island, from sea to sea, from continent to continent, till it holds the globe in its grasp.

But, while no one can doubt the mutual advantages of a judiciously-conducted commerce, or be insensible of the good, which has resulted to the cause of humanity, from the cultivation of a peaceful and friendly intercourse with other climes, it is yet beyond question, that the true principle of American policy, to which the whole spirit of our institutions, not less than the geographical features of the country, invites us, is *separation from Europe*. Next to UNION AT HOME, which ought to be called, not so much the essential condition

of our national existence as our existence itself, separation from all other countries is the great principle, by which we are to prosper. It is toward this, that our efforts, public and private, ought to tend; and we shall rise or decline in strength, improvement, and worth, as we obey or violate this principle. This is the voice of Nature, which did not in vain disjoin our Continent from the Old World; nor reserve it, beyond the ocean, for fifty centuries, only that it might become a common receptacle for the exploded principles, the degenerate examples, and the remediless corruptions, of other states. This is the voice of our history, which traces every thing, excellent in our character, and prosperous in our fortunes, to dissent, nonconformity, departure, resistance, and revolution. This is taught us, by the marked peculiarity and essential novelty which display themselves in our whole physical, political, and social, existence.

And it is a matter of sincere congratulation, that, under the healthy operation of natural causes, very partially accelerated by legislation, the current of our pursuits and industry, without deserting its former channels, is throwing a broad and swelling branch into the interior. Foreign commerce, the natural employment of an enterprising people, whose population is accumulated on the seacoast, and whose neutral services were invited by a world in arms, is daily reverting to a condition, of more equal participation among the various maritime states, and is, in consequence, becoming less productive to any one. While America remains, and will always remain, among the foremost commercial and naval states, an ample portion of our resources has already taken a new direction. We profited of the dissensions of Europe, which threw her trade into our hands. We are now profiting of the pacification of Europe, in the application to our own soil, our own mineral and vegetable products, our water-courses and our general internal resources, of a part of the capital thus accumulated.

This circumstance is, in a general view, most gratify-

ing; inasmuch as it creates a new bond of mutual dependence, in the variety of our natural gifts, and in the mutual benefits rendered each other by the several sectional interests of the country. The progress is likely to be permanent and sure, because it has been mainly brought about in the natural order of things, and with little legislative interference. Within a few years, what a happy change has taken place! The substantial clothing of our industrious classes is now the growth of the American soil, and the texture of the American loom; the music of the water-wheel is heard on the banks of our thousand rural streams; and enterprise and skill, with wealth, refinement, and prosperity, in their train, having studded the seashore with populous cities, are making their great "progress" of improvement through the interior, and sowing towns and villages, as it were, broadcast, through the country!

II. If our remote position be so important among the circumstances, which favored the enterprise of our fathers, and have favored the growth of their settlements, scarcely less so, was the point of time, at which those settlements were commenced.

When we cast our eyes over the annals of our race, we find them to be filled with a tale of various fortunes; the rise and fall of nations; periods of light and darkness; of great illumination, and of utter obscurity; and of all intermediate degrees of intelligence, cultivation, and liberty. But in the seeming confusion of the narrative, our attention is arrested by three more conspicuous eras, at unequal distances in the lapse of ages.

In Egypt, we still behold, on the banks of the Nile, the monuments of an improved age;—a period, no doubt, of high cultivation and of great promise. Beneath the influence of causes, which are lost in the depth of antiquity, but which are doubtless connected with the debasing superstitions and political despotism, which prevailed in that Country, this period passed away, and left scarce a trace of its existence, beyond the stupendous and mysterious structures,—the temples, the obe-

lisks, and the pyramids,—which yet bear witness to an age of great power and cultivated art, and mock the curiosity of mankind, by the records inscrutably carved on their surfaces.*

Passing over an interval of one thousand years, we reach the second epoch of light and promise. With the progress of freedom, in Greece, that of the mind kept pace; and an age, both of achievement and of hope, succeeded, of which the influence is still felt in the world. But the greater part of mankind were too barbarous, to improve by the example of this favored corner; and though the influence of its arts, letters, and civilization, was wonderfully extensive and durable; though it seemed to revive at the court of the Roman Cæsars, and still later, at that of the Arabian Caliphs; yet, not resting on those popular institutions, and popular principles, which can alone be permanent, because alone natural, it slowly died away, and Europe, and the world, relapsed into barbarity.

The third great era of our race is the close of the fifteenth century. The use of the mariner's compass, and the invention of the art of printing, had furnished the modern world, with two engines of improvement and civilization, either of which was far more efficacious, than all united, known to antiquity. The Reformation, also, about this time, disengaged Christianity, itself one of the most powerful instruments of civilization, from those abuses, which had hitherto greatly impaired its beneficent influence on temporal affairs; and, at this most chosen moment, in the annals of the world, America was discovered.

It would not be difficult, by pursuing this analysis, to show, that the precise period, when the settlement of our coasts began, was peculiarly auspicious to the foundation of a new and hopeful system.

Religious reformation was the original principle, which kindled the zeal of our pilgrim fathers; as it has

* This remark was made, before the successful attempts of Dr. Young and M. Champollion to decipher the Egyptian hieroglyphics.

been so often acknowledged to be the master principle of the greatest movements in the modern world. The religions of Greece and Rome were portions of the political systems of these countries. The Scipios, the Crassuses, and Julius Cæsar himself, were high priests. It was, doubtless, owing, in part, to this example, that, at an early period after the first introduction of Christianity, the heads of the Church so entirely mistook the spirit of this religion, that, in imitation of the splendid idolatry, which was passing away, they aimed at a new combination of Church and State, which received but too much countenance, from the policy of Constantine. This abuse, with ever multiplying and aggravated calamitous consequences, endured, without any effectual check, till the first blow was aimed at the supremacy of the papal power, by Philip the Fair, of France, in the fourteenth century, who laid the foundation of the liberties of the Gallican church, by what may be called the Catholic Reformation.

After an interval of two hundred years, this example was followed and improved upon by the Princes in Germany, who espoused the Protestant Reformation of Luther, and in a still more decisive manner, by Henry the Eighth, in England; at which period, we may accordingly date the second great step in the march of religious liberty.

Much more, however, was yet to be effected, toward the dissolution of the political bond between Church and State. Hitherto, a domestic was substituted for a foreign yoke, and the rights of private conscience had, perhaps, gained but little in the exchange. In the middle of the sixteenth century, and among the exiles, whom the tyranny of Queen Mary had driven to the free cities on the Rhine, the ever-memorable sect of Puritans arose. On their return to England, in the reign of Queen Elizabeth, they strenuously opposed themselves to the erection and peculiarities of the English national Church.

Nearly as we have now reached, both in simplicity

of principle and point of time, to our pilgrim forefathers, there is one more purifying process to go through, one more generation to pass away. The major part of the Puritans themselves, while they rejected some of the forms, and disliked the organization of the English Church, adhered, in substance, to the constitution of the Genevan Church, and their descendants were willing, a century later, to accept of an establishment by law in Scotland.

It remained, therefore, to shake off the last badge of subjection, and take the last step in the progress of reform, by asserting the independence of each single church. This principle may be considered as firmly established, from the time of John Robinson, who may be called the father of the *Independent* churches. His own, at Leyden, was the chief of these, and fidelity to their principles was the motive of their departure from Holland, and the occasion of their settlement at Plymouth.

Although there are many persons, entitled to great respect, who will not concur in the foregoing statement, of the nature of the dissent of our forefathers from the church of England, yet none, on a large view of the subject, will be unwilling to allow, that this was the great age of general improvement. It was the age, when the discoveries of the Spanish, Portuguese, and English, navigators had begun to exert a stimulating influence on the world at large; and the Old continent and the New, like the magnetic poles, commenced those momentous processes of attraction and repulsion, from which, so much of the activity of both has since proceeded. It was the period, when the circulation of knowledge had become general; and books, in all languages, were in the hands of a very large class, in every country. The history of Europe, in all its states, shows the extent and vehemence of the consequent fermentation. With their new engines of improvement and new principles of right, the communities of men rushed forward in the

course of reform; some with firmness and vigor, proportioned to the greatness of the object in view; most with tumult and desperation, proportioned to the duration and magnitude of their injuries; and none with entire success. The most that was effected, in the most fortunate states, was a compromise, between the new claims and the old abuses. Absolute kings stipulated to be no longer absolute; and free citizens preferred what they called petitions of right. In this way, and after infinite struggles, a tolerable foundation for considerable practical liberty was laid on two principles, in the abstract false, as principles of government, —that of acquiescence on the part of the sovereign, and prescription in favor of the people. So firmly established are these principles, by consent of the statesmen of the freest country in Europe, as the best and only foundation of civil rights, that, so late as the last years of the eighteenth century, a work, of ingenuity seldom, of eloquence never, surpassed, was written by Mr. Burke, to prove, that the people of England have not a right to appoint and to remove their rulers; and that, if they ever had the right, they deliberately renounced it, at what is called the glorious revolution of 1688, for themselves and their posterity forever.

The work of reform is, of course, rendered exceedingly difficult, in Europe, by the length of time for which great abuses have existed, and the extent to which these abuses are interwoven with the whole system. We cannot but regard it as the plain interposition of Providence, that, at the critical point of time, when the most powerful springs of improvement were in operation, a chosen company of pilgrims, who were actuated by these springs of improvement, in all their strength, who had purchased the privilege of dissent at the high price of banishment from the civilized world, and who, with the dust of their feet, had shaken off many of the abuses and errors which had been accumulating, for thousands of years, came over to

these distant, unoccupied shores. I know not that the work of thorough reform could be safely trusted to any other hands. I can credit their disinterestedness, when they maintain the equality of ranks; for no rich forfeitures of attainted lords await them in the wilderness. I need not question the sincerity with which they assert the rights of conscience; for the plundered treasures of an ancient hierarchy are not to seal their doctrine. They rested the edifice of their civil and religious liberties, on a foundation, as pure as the snows around them. Blessed be the spot, the only one on earth, where such a foundation was ever laid! Blessed be the spot, the only one on earth, where man has attempted to establish the good, without beginning with the sad, the odious, the often suspicious, task of pulling down the bad!

III. Under these auspices, the Pilgrims landed on the coast of New England. They found it a region of moderate fertility, offering an unsubdued wilderness to the hand of labor, with a climate, temperate, indeed, but, compared with that which they had left, verging somewhat near to either extreme; and a soil, which promised neither gold nor diamonds, nor any thing but what should be gained from it by patient industry. This was but a poor reality for that dream of Oriental luxury, with which America had filled the imaginations of men. The visions of Indian wealth, of mines of silver and gold, and fisheries of pearl, with which the Spanish adventurers in Mexico and Peru had astonished the ears of Europe, were but poorly fulfilled on the bleak, rocky, and sterile, plains of New England. No doubt, in the beginning of the settlement, these circumstances operated unfavorably on the growth of the colony. In the nature of things, it is mostly adventurers, who incline to leave their homes and native land, and risk the uncertainty of another hemisphere; and a climate and soil like ours furnished but little attraction to the adventuring class. Captain Smith, in his zeal to promote the growth of New England, is at no little pains

to show, that the want of mineral treasures was amply compensated by the abundant fishery of the coast; and having sketched, in strong colors, the prosperity and wealth of the states of Holland, he adds, "Divers, I know, may allege many other assistances, but this is the chiefest mine, and the sea the source of those silver streams of their virtue, which hath made them now the very miracle of industry, the only pattern of perfection for these affairs; and the benefit of fishing is that *primum mobile** that turns all their spheres to this height of plenty, strength, honor, and exceeding great admiration."†

While we smile at this overwrought panegyric, on the primitive resource of our fathers, we cannot but acknowledge, that it has foundation in truth. It is, doubtless, to the untempting qualities of our climate and soil, and the conditions of industry and frugality, on which alone the prosperity of the colony could be secured, that we are to look for a full share of the final success of the enterprise.

To this, it is to be ascribed, that the country itself was not preoccupied by a crowded population of savages, like the West India Islands and Mexico, who, placed upon a soil, yielding, almost spontaneously, a superabundance of food, had multiplied into populous empires, and made a progress in the arts, which served no other purpose, than to give strength and permanence to some of the most frightful systems of despotism, that ever afflicted humanity; systems, uniting all that is most horrible in depraved civilization and wild barbarity. The problem, indeed, is hard to be solved, in what way, and by what steps, a continent, possessed by savage tribes, is to be lawfully occupied and colonized by civilized man. But this question was divested of much of its practical difficulty, by the scantiness of the native population, which our fathers found in New England,

* The first cause of motion, the mainspring, the first impulse.

† Smith's Generall Historie. Vol. II. p. 185, Richmond Edit.

and the migratory life, to which the necessity of the chase reduced them. It is owing to this, that the annals of New England exhibit no scenes, like those which were acted in Hispaniola, in Mexico, and Peru; no tragedies like those of Anacaona, of Guatimozin, and of Atahualpa; no statesman like Bobadilla; no heroes like Pizarro and Cortes;

"No dark Ovando, no religious Boyle."

The qualities of our climate and soil enter largely, in other ways, into that natural basis, on which our prosperity and our freedom have been reared. It is these, which distinguish the smiling aspect of our busy, thriving villages, from the lucrative desolation of the sugar islands, and all the wide-spread, undescribed, indescribable, miseries, of the colonial system of modern Europe, as it has existed, beyond the barrier of these mighty oceans, in the unvisited, unprotected, and unavenged, recesses of either India. We have had abundant reason to be contented with this austere sky, this hard, unyielding soil. Poor as it is, it has left us no cause to sigh for the luxuries of the tropics, nor to covet the mines of the southern regions of our hemisphere. Our rough and hardly subdued hill-sides, and barren plains, have produced us that, which neither ores, nor spices, nor sweets could purchase; which would not spring in the richest gardens of the despotic East. The compact numbers and the strength, the general intelligence and the civilization, which, since the world began, were never exhibited beneath the sultry line, have been the precious product of this iron-bound coast. The rocks and the sands, which would yield us neither the cane nor the coffee tree, have yielded us, not only an abundance and a steadiness in resources, rarely consistent with the treacherous profusion of tropical colonies, but the habits, the manners, the institutions, the industrious population, the schools and the churches, beyond all the wealth of all the Indies.

"Man is the nobler growth our soil supplies,
And souls are ripened in our northern skies."

Describe to me, a country, rich in veins of the precious metals, that is traversed by good roads. Inform me of the convenience of bridges, where the rivers roll over golden sands. Tell me of a thrifty, prosperous village of freemen, in the miserable districts where every clod of the earth is kneaded up for diamonds, beneath the lash of the task-master. No, never! while the constitution, not of states, but of human nature, remains the same; never, while the laws, not of civil society, but of God, are unrepealed, will there be a hardy, virtuous, independent yeomanry, in regions, where two acres of untilled banana will feed a hundred men. It is idle to call that *food*, which can never feed a free, intelligent, industrious population. It is not food; it is dust; it is chaff; it is ashes; there is no nourishment in it, if it be not carefully sown, and painfully reaped, by laborious freemen, on their own fee-simple acres.

IV. Nor ought we to omit to say, that, if our forefathers found, in the nature of the region to which they emigrated, the most favorable spot for the growth of a free and happy state, they themselves sprang from the land, the best adapted to furnish the habits and principles essential to the great undertaking. In an age, that speculates, and speculates to important purpose, on the races of fossil animals, of which no living specimen has existed since the Deluge, and which compares, with curious criticism, the dialects of languages, which ceased to be spoken, a thousand years ago, it cannot be called idle, to inquire, which, of the different countries of modern Europe, possesses the qualities, that best adapt it to become the parent nation of a new and free state. I know not, in fact, what more momentous question, in human affairs, could be asked, than that which regards the most hopeful lineage of a collective empire. But, without engaging in so extensive a discussion, I may presume, that there is not one

who hears me that does not feel it a matter of congratulation and joy, that our fathers were Englishmen.

No character is perfect among nations, more than among men; but it must needs be conceded, that, after our own Country, England is the most favored abode of liberty; or rather, that, besides our own, it is the only land, where liberty can be said to exist; the only land, where the voice of the sovereign, is not stronger than the voice of the law. We can scarce revolve, with patience, the idea, that we might have been a Spanish colony, a Portuguese colony, or a Dutch colony. We can scarcely compare, with coolness, the inheritance of those institutions, which were transmitted to us, by our fathers, with that which we must have received from almost any other country; absolute government, military despotism, and the "holy inquisition." What would have been the condition of this flourishing and happy land, had these been the institutions, on which its settlement was founded? There are, unfortunately, too many materials for answering this question, in the history of the Spanish and Portuguese settlements on the American continent, from the first moment of unrelenting waste and desolation, to the distractions and conflicts, of which we ourselves are the witnesses. What hope can there be, for the colonies of nations, which possess, themselves, no spring of improvement; and tolerate none in the regions over which they rule; whose administration sets no bright examples of political independence; whose languages send out no reviving lessons of sound and practical science, (afraid of nothing that is true,) of manly literature, of free speculation; but repeat, with every ship that crosses the Atlantic, the same debasing voice of despotism, credulity, superstition, and slavery?

What citizen of our republic is not grateful, in the contrast which our history presents? Who does not feel, what reflecting American does not acknowledge, the incalculable advantages derived to this land, out of the deep foundations of civil, intellectual, and moral,

truth, from which we have drawn in England? What American does not feel proud, that he is descended from the countrymen of Bacon, of Newton, and of Locke? Who does not know, that, while every pulse of civil liberty, in the heart of the British empire, beat warm and full in the bosom of our fathers; the sobriety, the firmness, and the dignity, with which the cause of free principles struggled into existence here, constantly found encouragement and countenance from the sons of liberty there? Who does not remember, that, when the Pilgrims went over the sea, the prayers of the faithful British confessors, in all the quarters of their dispersion, went over with them, while their aching eyes were strained, till the star of hope should go up in the western skies? And who will ever forget, that, in that eventful struggle, which severed this mighty republic from the British crown, there was not heard, throughout our continent in arms, a voice, which spoke louder for the rights of America, than that of Burke or of Chatham, within the walls of the British parliament, and at the foot of the British throne? No: for myself I can truly say, that, after my native land, I feel a tenderness and a reverence for that of my fathers. The pride I take in my own Country makes me respect that from which we are sprung. In touching the soil of England, I seem to return, like a descendant, to the old family seat; to come back to the abode of an aged and venerable parent. I acknowledge this great consanguinity of nations. The sound of my native language, beyond the sea, is a music to my ear, beyond the richest strains of Tuscan softness, or Castilian majesty. I am not yet in a land of strangers, while surrounded by the manners, the habits, the institutions under which I have been brought up. I wander, delighted, through a thousand scenes, which the historians, the poets, have made familiar to us; of which the names are interwoven with our earliest associations. I tread, with reverence, the spots, where I can retrace the footsteps of our suffering fathers; the pleasant land

of their birth has a claim on my heart. It seems to me a classic, yea, a holy land, rich in the memory of the great and good, the martyrs of liberty, the exiled heralds of truth; and richer, as the parent of this land of promise in the West.

I am not,—I need not say, I am not,—the panegyrist of England. I am not dazzled by her riches, nor awed by her power. The sceptre, the mitre, and the coronet,—stars, garters, and blue ribands,—seem, to me, poor things for great men to contend for. Nor is my admiration awakened by her armies, mustered for the battles of Europe; her navies, overshadowing the ocean; nor her empire grasping the furthest East. It is these, and the price of guilt and blood by which they are maintained, which are the cause, why no friend of liberty can salute her with undivided affections. But it is the refuge of free principles, though often persecuted; the school of religious liberty, the more precious for the struggles to which it has been called; the tombs of those who have reflected honor on all who speak the English tongue; it is the birthplace of our fathers, the home of the Pilgrims; it is these, which I love and venerate in England. I should feel ashamed of an enthusiasm for Italy and Greece, did I not also feel it, for a land like this. In an American, it would seem to me degenerate and ungrateful, to hang, with passion, upon the traces of Homer and Virgil, and follow, without emotion, the nearer and plainer footsteps of Shakspeare and Milton; and I should think him cold in his love for his native land, who felt no melting in his heart, for that other native land, which holds the ashes of his forefathers.

V. But it was not enough, that our fathers were of England: the masters of Ireland, and the lords of Hindostan, are of England, too. But our fathers were Englishmen, aggrieved, persecuted, and banished. It is a principle, amply borne out by the history of the great and powerful nations of the earth, and by that of none, more than the country of which we speak, that the best

fruits and choicest action, of the commendable qualities of the national character, are to be found on the side of the oppressed few, and not of the triumphant many. As in private character, adversity is often requisite to give a proper direction and temper to strong qualities, so the noblest traits of national character, even under the freest and most independent of hereditary governments, must sometimes be sought, in the ranks of a protesting minority, or of a dissenting sect. Never was this truth more clearly illustrated, than in the settlement of New England.

Could a common calculation of policy have dictated the terms of that settlement, no doubt our foundations would have been laid beneath the royal smile. Convoys and navies would have been solicited to waft our fathers to the coast; armies, to defend the infant communities; and the flattering patronage of princes and lords, to espouse their interests in the councils of the mother country. Happy, that our fathers enjoyed no such patronage; happy, that they fell into no such protecting hands; happy, that our foundations were silently and deeply cast in quiet insignificance, beneath a charter of banishment, persecution, and contempt; so that, when the royal arm was at length outstretched against us, instead of a submissive child, tied down by former graces, it found a youthful giant in the land, born amidst hardships, and nourished on the rocks, indebted for no favors, and owing no duty. From the dark portals of the star chamber, and in the stern text of the acts of uniformity, the Pilgrims received a commission, more efficient than any that ever bore the royal seal. Their banishment to Holland was fortunate; the decline of their little company, in the strange land, was fortunate; the difficulties, which they experienced in getting the royal consent to banish themselves to this wilderness, were fortunate; all the tears and heartbreakings, of that ever-memorable parting at Delfthaven, had the happiest influence on the rising destinies of New England. All this purified the ranks of the set-

tlers. These rough touches of fortune brushed off the light, uncertain, selfish spirits. They made it a grave, solemn, self-denying expedition. They cast a broad shadow of thought and seriousness over the cause, and, if this sometimes deepened into melancholy and bitterness, can we find no apology for such a human weakness?

It is sad, indeed, to reflect on the disasters, which this little band of Pilgrims encountered. Sad, to see a portion of them the prey of unrelenting cupidity, treacherously embarked in an unseaworthy ship, which they are soon obliged to abandon, and crowd themselves into one vessel;—one hundred persons, besides the ship's company, in a vessel of one hundred and sixty tons. One is touched, at the story of the long, cold, and weary, Autumnal passage; of the landing on the inhospitable rocks, at this dismal season; where they are deserted, before long, by the ship, which had brought them, and which seemed their only hold upon the world of fellow-men, a prey to the elements and to want, and fearfully ignorant of the numbers, the power, and the temper, of the savage tribes, that filled the unexplored continent, upon whose verge they had ventured. But all this wrought together for good. These trials of wandering and exile, of the ocean, the Winter, the wilderness, and the savage foe, were the final assurance of success. It was these, that put far away from our fathers' cause, all patrician softness, all hereditary claims to preeminence. No effeminate nobility crowded into the dark and austere ranks of the Pilgrims. No Carr nor Villiers desired to lead on the ill-provided band of despised Puritans. No well-endowed clergy were desirous, to quit their cathedrals, and set up a splendid hierarchy in the frozen wilderness. No craving governors were anxious to be sent over to our cheerless El Dorados of ice and of snow. No, they could not say they had encouraged, patronised, or helped, the Pilgrims. They could not afterwards fairly pretend to reap, where they had not strown; and, as our fathers

reared this broad and solid fabric with pains and watchfulness, unaided, barely tolerated, it did not fall, when the arm, which had never supported, was raised to destroy.

Methinks I see it, now, that one solitary, adventurous vessel, the Mayflower of a forlorn hope, freighted with the prospects of a future state, and bound across the unknown sea. I behold it, pursuing, with a thousand misgivings, the uncertain, the tedious voyage. Suns rise and set, and weeks and months pass, and Winter surprises them on the deep, but brings them not the sight of the wished-for shore. I see them, now, scantily supplied with provisions, crowded almost to suffocation in their ill-stored prison, delayed by calms, pursuing a circuitous route; and now, driven in fury before the raging tempest, on the high and giddy waves. The awful voice of the storm howls through the rigging. The laboring masts seem straining from their base; the dismal sound of the pumps is heard; the ship leaps, as it were, madly, from billow to billow; the ocean breaks, and settles with engulfing floods over the floating deck, and beats with deadening weight, against the staggered vessel. I see them, escaped from these perils, pursuing their all but desperate undertaking, and landed at last, after a five months' passage, on the ice-clad rocks of Plymouth, weak and weary from the voyage, poorly armed, scantily provisioned, depending on the charity of their ship-master for a draught of beer on board, drinking nothing but water on shore, without shelter, without means, surrounded by hostile tribes. Shut now the volume of history, and tell me, on any principle of human probability, what shall be the fate of this handful of adventurers. Tell me, man of military science, in how many months were they all swept off by the thirty savage tribes, enumerated within the early limits of New England? Tell me, politician, how long did this shadow of a colony, on which your conventions and treaties had not smiled, languish on the distant coast? Student of history,

compare for me the baffled projects, the deserted settlements, the abandoned adventures, of other times, and find the parallel of this. Was it the Winter's storm, beating upon the houseless heads of women and children? was it hard labor and spare meals? was it disease? was it the tomahawk? was it the deep malady of a blighted hope, a ruined enterprise, and a broken heart, aching in its last moments, at the recollection of the loved and left, beyond the sea?—was it some, or all, of these, united, that hurried this forsaken company to their melancholy fate? And is it possible, that neither of these causes, that not all combined, were able to blast this bud of hope? Is it possible, that from a beginning, so feeble, so frail, so worthy, not so much of admiration as of pity, there has gone forth a progress so steady, a growth so wonderful, a reality so important, a promise yet to be fulfilled, so glorious?

Such, in a very inadequate statement, are some of the circumstances, under which the settlement of our country began. The historian of Massachusetts, after having given a brief notice of Carver, of Bradford, of Winslow, of Brewster, of Standish, and others, adds, "These were the founders of the colony of Plymouth. The settlement of this colony occasioned the settlement of Massachusetts Bay; which was the source of all the other colonies of New England. Virginia was in a dying state, and seemed to revive and flourish from the example of New England. I am not preserving from oblivion," continues he, "the names of heroes, whose chief merit is the overthrow of cities, of provinces, and empires; but the names of the founders of a flourishing town and colony, if not of the whole British empire in America."* This was the judicious reflection of Hutchinson, sixty years ago, when the greatest tribute to be paid to the Fathers of Plymouth was, that they took the lead in colonizing the British possessions in America. What, then, ought to be our emotions, as

* Hutchinson's History of Massachusetts Bay, Vol. II. Appendix, p. 463.

we meet, on this anniversary, upon the spot, where the first successful foundations of the great American republic were laid?

Within a short period, an incident has occurred, which, of itself, connects, in the most gratifying association, the early settlement of New England, with the present growth and prosperity of our wide-extended republic. Within the past year, the sovereign hand of this great confederacy of States has been extended, for the restoration and security of the harbor, where, on the day we celebrate, the germ of the future growth of America was comprehended within one weather-beaten vessel, tossing upon the tide, on board of which, in the words of Hutchinson, the Fathers of New England, by a solemn instrument, "formed themselves into a proper democracy." Two centuries, only, have elapsed, and we behold a great American representation convened, from twenty-four independent and flourishing republics, taking under their patronage the local interests of the spot where our fathers landed, and providing, in the same act of appropriation, for the removal of obstacles in the Mississippi and the repair of Plymouth beach. I know not in what words a more beautiful commentary could be written, on our early infancy or our happy growth. There were members of the national Congress which made that appropriation, I will not say from distant states, but from different climates; from regions which the sun in the heavens does not reach in the same hour that he rises on us. Happy community of protection! Glorious brotherhood! Blessed fulfilment of that first timorous hope, that warmed the bosoms of our fathers!

Nor is it even our mighty territory, to which the influence of the principles and example of the fathers of New England is confined. While I utter the words, a constitution of republican government, closely imitated from ours, is going into operation in the States of the Mexican confederation, a region more extensive than all our territories east of the Mississippi. Further south,

one of the provinces of Central America, the republic of Guatimala, has sent its envoys to solicit a union with us. Will posterity believe, that such an offer was made and refused, in the age, that saw England and Spain rushing into war for the possession of a few uninhabited islets on the coast of Patagonia? Pass the isthmus of Darien, and we behold the sister republic of Colombia, a realm two thirds as large as Europe, ratifying her first solemn treaty of amity and commerce with the United States; while still onward to the south, in the valleys of the Chilian Andes, and on the banks of La Plata, in states not less vast than those already named, constitutions of republican government are in prosperous operation, founded on our principles, and modelled on our forms. When our commissioners visited those countries, in 1817, they found the books, most universally read among the people, were, the constitutions of the United States and of the several States, translated into the language of the country; while the public journals were filled with extracts from the celebrated 'Defence' of these constitutions, written by that venerable descendant of the Pilgrims, who still lives to witness the prosperous operation of the governments, which he did so much to establish.*

I do not fear that we shall be accused of extravagance, in the enthusiasm we feel at a train of events, of such astonishing magnitude, novelty, and consequence, connected by associations so intimate, with the day we now hail; with the events we now celebrate; with the Pilgrim Fathers of New England. Victims of persecution! how wide an empire acknowledges the sway of your principles! Apostles of liberty! what millions attest the authenticity of your mission! Meek champions of truth! no stain of private interest or of innocent blood is on the spotless garments of your renown! The great continents of America have become,

* John Adams, formerly President of the United States. He died at Quincy, July 4, 1826.

at length, the theatre of your achievements; the Atlantic and the Pacific, the highways of communication, on which your principles, your institutions, your example, are borne. From the oldest abodes of civilization, the venerable plains of Greece, to the scarcely explored range of the Cordilleras, the impulse you gave, at length, is felt. While other regions revere you as the leaders of this great march of humanity, we are met, on this joyful day, to offer to your memory our tribute of filial affection. The sons and daughters of the Pilgrims, we have assembled on the spot, where you, our suffering fathers, set foot on this happy shore. Happy, indeed, it has been for us! O! that you could have enjoyed those blessings, which you prepared for your children! Could our comfortable homes have shielded you, from the Wintry air! could our abundant harvests have supplied you, in time of famine! could the broad shield of our beloved country have sheltered you, from the visitations of arbitrary power! We come, in our prosperity, to remember your trials; and here, on the spot where New England began to be, we come, to learn of you, our Pilgrim Fathers, a deep and lasting lesson of virtue, enterprise, patience, zeal, and faith!

ON THE IMPORTANCE OF SCIENTIFIC KNOWLEDGE, TO PRACTICAL MEN, AND ON THE ENCOURAGEMENTS TO ITS PURSUIT.*

The chief object of the Mechanics' Institute is, to diffuse useful knowledge among the mechanic class of the community. It aims, in general, to improve and inform the minds of its members; and particularly to illustrate and explain the principles of the various arts of life, and render them familiar to that portion of the community, who are to exercise these arts as their occupation in society. It is also a proper object of the Institute, to point out the connexion between the mechanic arts and the other pursuits and occupations, and show the foundations, which exist in our very nature, for a cordial union between them all.

These objects recommend themselves strongly and obviously to general approbation. While the cultivation of the mind, in its more general sense, and in connexion with morals, is as important to mechanics as to any other class, nothing is plainer, than that those, whose livelihood depends on the skilful practice of the arts, ought to be instructed, as far as possible, in the scientific principles and natural laws, on which the arts are founded. This is necessary, in order that the arts themselves should be pursued to the greatest advantage; that popular errors should be eradicated; that every accidental improvement in the processes of industry, which offers itself, should be readily taken up and pursued to its principle; that false notions, leading to waste of time and labor, should be prevented from gaining or retaining currency; in short, that the useful, like the ornamental, arts of life, should be carried to the point of attainable perfection.

* The following Essay contains the substance of Addresses delivered by the Author, before several institutions for scientific improvement. E. E.

The history of the progress of the human mind shows us, that, for want of a diffusion of scientific knowledge, among practical men, great evils have resulted, both to science and practice. Before the invention of the art of printing, the means of acquiring and circulating knowledge were few and ineffectual. The philosopher was, in consequence, exclusively a man of study, who, by living in a monastic seclusion, and by delving into the few books which time had spared,—particularly the works of Aristotle and his commentators,—succeeded in mastering the learning of the day; learning, mostly of an abstract and metaphysical nature. Thus, living in a world, not of practice, but speculation, and seldom bringing his theories to the test of observation, his studies assumed a visionary character. Hence the projects for the transmutation of metals,—a notion not originating in any observation of the qualities of the different kinds of metals, but in reasoning, *à priori*, on their supposed identity of substance. So deep rooted was this delusion, that a great part of the natural science, of the middle ages, consisted in projects to convert the baser metals into gold. It is plain, that such a project would no more have been countenanced, by intelligent, well-informed persons, practically conversant with the nature of the metals, than a project to transmute pine into oak, or fish into flesh.

In like manner, by giving science wholly up to the philosophers, and making the practical arts of life merely a matter of traditionary repetition, from one generation to another of uninformed artisans, much evil, of an opposite kind, was occasioned. Accident, of course, could be the only source of improvement; and, for want of acquaintance with the leading principles of mechanical philosophy, the chances were indefinitely multiplied, against these accidental improvements. For want of the diffusion of information, among practical men, the principles, prevailing in an art, in one place, were unknown, in other places; and processes, existing at one period, were liable to be forgotten, in the lapse

of time. Mysteries and secrets, easily kept, in such a state of things, and cherished by their possessor, as a source of monopoly, were so common, that *mystery* is still occasionally used, as synonymous with *trade*. This also contributed to the loss of arts, once brought to perfection, such as that of staining glass, as practised in the middle ages. Complicated machinery was out of the question; for it requires, for its invention and improvement, the union of scientific knowledge and practical skill. The mariner was left to creep along the coast, while the astronomer was casting nativities; and the miner was reduced to the most laborious and purely mechanical processes, to extract the precious metals from the ores that really contained them, while the chemist, who ought to have taught him the method of amalgamation, could find no use for mercury, but as a *menstruum*, by which baser metals could be turned into gold.

At the present day, this state of things is certainly changed. A variety of popular treatises, and works of reference, have made the great principles of natural science generally accessible. It certainly is in the power of almost every one, by pains and time properly bestowed, to acquire a decent knowledge of every branch of practical philosophy. But still, it would appear, that, even now, this part of education is not on the right footing. Generally speaking, even now, all actual instruction, in the principles of natural science, is confined to the colleges; and the colleges are, for the most part, frequented, only by those intended for professional life. The elementary knowledge of science, which is communicated at the colleges, is, indeed, useful, in any and every calling; but it does not seem right, that none but those intended for the pulpit, the bar, or the profession of medicine, should receive instruction in those principles, which regulate the operation of the mechanical powers, and lie at the foundation of complicated machinery; which relate to the navigation of the seas, the smelting and refining of metals,

the composition and improvement of soils, the reduction to a uniform whiteness of the vegetable fibre, the mixture and application of colors, the motion and pressure of fluids in large masses, the nature of light and heat, the laws of magnetism, electricity, and galvanism. It would seem, that this kind of knowledge was more immediately requisite, for those who are to be employed in making or using labor-saving machinery, who are to traverse the ocean, to lay out and direct the construction of canals and rail-roads, to build steam-engines and hydraulic presses, to work mines, and to conduct large agricultural and manufacturing establishments. Hitherto, with some partial exceptions, little has been done systematically, to afford, to those engaged in these pursuits, that knowledge, which, however convenient to others, would seem essential to them. There has been scarce any thing, which could be called education for practical life; and those persons, who, in the pursuit of any of the useful arts, have signalized themselves, by the employment of scientific principles, for the invention of new processes, or the improvement of the old, have been self-educated men.

I am aware, that it is often made an argument against scientific education, that the greatest discoveries and inventions have been either the production of such self-educated men, or have been struck out by accident. There certainly is some truth in this. So long as no regular system of scientific education, for the working classes, exists, it is a matter of necessity, that, if any great improvement be made, it must be either the result of accident, or the happy thought of some powerful native genius, who forces his way, without education, to the most astonishing results. This, however, is no more the case, with respect to the useful arts and the mechanical pursuits, than with respect to all the other occupations of society; and it would continue to be the case, after the establishment of the best system of scientific education. We find, in every pursuit and calling, some instances of remarkable men, who,

without an early education, adapted to the object, have raised themselves to great eminence. Lord Chancellor King, in England, was a grocer, at that period of life, which is commonly spent in academical study, by those destined for the profession of the law. Chief Justice Pratt, of New York, having been brought up a carpenter, was led, by a severe cut from an axe, which unfitted him for work, to turn his attention to the law. Franklin,* who seemed equally to excel, in the conduct of the ordinary business of life, in the sublimest studies of philosophy, and in the management of the most difficult state affairs, was bred a printer. All these callings are quite respectable, but no one would think of choosing either of them, as the school of the lawyer, judge, or statesman. The fact, that the native power of genius sometimes makes its way, against all obstacles, and under every discouragement, proves nothing, as to the course which it is expedient for the generality of men to pursue. The safe path to excellence and success, in every calling, is that of appropriate preliminary education, diligent application to learn the art, and assiduity in practising it. I can perceive no reason, why this course should not be followed, in reference to the mechanical, as well as the professional, callings. The instances of eminent men, like those named, and many others that might be named, such as Arkwright and Harrison,† who have sprung from the depths of poverty, to astonish and benefit mankind, no more prove that education is useless to the mechanic, than the corresponding examples prove that it is useless to the statesman, jurist, or divine.

Besides, it will perhaps be found, that the great men, like those I have named, instead of being instances to show that education is useless, prove only, that, occa-

* A notice of Franklin forms one of the volumes of 'THE SCHOOL LIBRARY.'

† For biographical notices of Arkwright and Harrison, see a Work entitled, 'The Pursuit of Knowledge under Difficulties,' forming a part of 'THE SCHOOL LIBRARY.'

sionally, men, who commence their education late, are as successful, as those who commence it early. It follows, from this, not that an early education is no benefit, but that the want of it may sometimes be made up, in later years. It might be so made up, no doubt, oftener than it is; and it is, in this Country, much more frequently than in any other.

The foundation of a great improvement is, also, often a single conception, which suggests itself to a man of strong but uneducated mind; and who has the good fortune, afterwards, to receive, from others, that aid, in executing his projects, without which, the most promising conception might have perished undeveloped. Thus, Sir Richard Arkwright wanted education, but was endowed with a wonderful quickness of mind. What particular circumstances awakened his mechanical taste, we are not told. There is some reason to think, that this, like other strongly-marked aptitudes, may partly depend on the peculiar organization of the body, which is exactly the same in no two men. The daily observation of the operation of the spinning-wheel, in the cottages of the peasantry of Lancashire, (England,) gave him a full knowledge of the existing state of the art, which it was his good fortune to improve, to a degree which is even yet the wonder of the world. He conceived, at length, the idea of an improved machine for spinning. And in this conception,—not improbably a flash across the mind, the work of an instant,—lay all his original merit. But this is every thing. America was discovered, from the moment that Columbus* firmly grasped the idea, that, the earth being spherical, the Indies might be reached, by sailing on a westerly course. If the actual discovery had not been made, for ages after the death of Columbus, he would, nevertheless, in publishing this idea to the world, have been the pilot that led the way, whoever had followed his guid-

* For an account of the Life and Voyages of Columbus, see Vol. I. of 'THE SCHOOL LIBRARY,' larger Series; and Vol. XI. of the smaller or Juvenile Series.

ance. Sir Richard Arkwright, having formed the conception of his spinning machine, had recourse to a watchmaker, to execute his idea. But how rarely could it happen, that circumstances would put it in the power of a person,—himself ignorant and poor,—to engage the coöperation of an intelligent watchmaker!

Neither is it intended, that the education which we recommend, should extend to a minute acquaintance with the practical application of science to the details of every art. This would be impossible, and does not belong to preparatory education. We wish, only, that the general laws and principles should be so taught, as greatly to multiply the number of persons competent to carry forward such casual suggestions of improvement as may present themselves, and to bring their art to that state of increasing excellence, which all arts reach, by long-continued, intelligent cultivation.

It may further be observed, with respect to those great discoveries, which seem to be produced by happy accidents and fortuitous suggestion, that such happy accidents are most likely to fall in the way of those, who are on the look-out for them;—those whose mental eyesight has been awakened and practised to behold them. The world is informed of all the cases in which such fortunate accidents have led to useful and brilliant results; but their number would probably appear smaller than it is now supposed to be, were such a thing possible as the *negative history* of discovery and improvement. No one can tell us, what might have been done, had every opportunity been faithfully improved, every suggestion sagaciously caught up and followed out. No one can tell, how often the uneducated or unobservant mind has approached to the very verge of a great discovery,—has had some wonderful invention almost thrust upon it,—but without effect. The ancients, as we learn from many passages in the Greek and Latin classics, were acquainted with convex lenses, but did not apply them to the construction of magnifying glasses or telescopes. They made use of seal-rings

with inscriptions; and they marked their flocks with brands, containing the owner's name. In each of these practices, faint rudiments of the art of printing are concealed. Cicero, in one of his moral works, (*De Natura Deorum*,*) in confuting the error of those philosophers, who taught that the world was produced by the fortuitous concourse of wandering atoms, uses the following language, as curious, in connexion with the point I would illustrate, as it is beautiful in expression, and powerful in argument:—"Here," says he, "must I not wonder, if there should be a man, who can persuade himself, that certain solid and separate bodies are borne about by force or weight, and that this most beautiful and finished world is formed by their accidental meeting? Whoever can think this possible, I do not see why he cannot also believe, that, if a large number of *forms* of the one and twenty letters, (of gold or any like substance,) were thrown any where together, the annals of Ennius might be made out from them, as they are cast on the ground, so as to be read in order; a thing which I know not if it be within the power of chance to effect, even in a single verse." How very near an approach is made, in this remark, to the invention of the art of printing, fifteen hundred years before it took place!

How slight and familiar was the occurrence, which gave to Sir Isaac Newton† the first suggestion of his system of the universe! This great man had been driven, by the plague, from London to the country, and had left his library behind him. Obliged to find occupation, in the activity of his own mind, he was led, in his meditations, to trace the extent of the principle which occasioned the fall of an apple, from the tree, in the garden where he passed his solitary hours. Commencing with this familiar hint, he followed it out, to

* On the nature of the gods.

† For a notice of Sir Isaac Newton, see the first Volume of 'The Pursuit of Knowledge under Difficulties,' in 'The School Library.'

that universal law of gravity, which binds the parts of the earth and ocean together, which draws the moon to the earth, the satellites to the planets, the planets to the sun, and the sun itself, with its attendant worlds, toward some grand and general point of attraction for that infinity of systems, of which the several stars are the centres. How many hundreds of thousands of men, since the creation of the world, had seen an apple fall from a tree! How many philosophers had speculated, profoundly, on the system of the universe! But it required the talent of a man placed, by general consent, at the head of the human race, to deduce from this familiar occurrence on the surface of the earth, the operation of the primordial law of Nature, which governs the movements of the heavens, and holds the universe together. Nothing less than his sagacity could have made the deduction, and nothing less than a mathematical skill, and an acquaintance with the previously ascertained principles of science, such as falls to the lot of very few, would have enabled Newton to demonstrate the truth of his system.

Let us quote another example, to show that the most obvious and familiar facts may be noticed, for ages, without effect, till they are observed by a sagacious eye, and scrutinized with patience and perseverance. The appearance of lightning, in the clouds, is as old as the creation; and certainly, no natural phenomenon forces itself more directly on the notice of men. The existence of the electric fluid, as excited by artificial means, was familiarly known to philosophers, a hundred years before Franklin; and there are a few vague hints, prior to his time, that lightning is an electrical appearance. But it was left for Franklin, distinctly to conceive that proposition, and to institute an experiment, by which it should be demonstrated. The process, by which he reached this great conclusion, is worth remembering. Dr. Franklin had seen the most familiar electrical experiments performed at Boston, in 1745, by a certain Dr. Spence, a Scotch lecturer. His curiosity being excited,

by witnessing these experiments, he purchased the whole of Dr. Spence's apparatus, and repeated the experiments at Philadelphia. Pursuing his researches, with his own instruments, and others which had been liberally presented to the Province of Pennsylvania, by the Proprietor, Mr. Penn, and by Dr. Franklin's friend, Mr. Collinson, our illustrious countryman rapidly enlarged the bounds of electrical science, and soon arrived at the undoubting conviction, that the electrical fluid and lightning are identical. But he could not rest, till he had brought this truth to the test of demonstration, and he boldly set about an experiment, upon the most terrific element in Nature. He at first proposed, by means of a spire, which was erecting in Philadelphia, to form a connexion between the region of the clouds and an electrical apparatus; but the appearance of *a boy's kite*, in the air, suggested to him a readier method. Having prepared a kite, adapted for the purpose, he went out into a field, accompanied by his son, to whom alone, he had imparted his design. The kite was raised, having a key attached to the lower end of the cord, and being insulated, by means of a silken thread, by which it was fastened to a post. A heavy cloud, apparently charged with lightning, passed over the kite; but no signs of electricity were witnessed in the apparatus. Franklin was beginning to despair, when he saw the loose fibres bristling from the hempen cord. He immediately presented his knuckle to the key, and received the electrical spark. Overcome by his feelings, at the consummation of this great discovery, "he heaved a deep sigh, and, conscious of an immortal name, felt that he could have been content, had that moment been his last." How easily it might have been his last, was shown by the fact, that when Professor Richman, a few months afterwards, was repeating this experiment at St. Petersburgh, a globe of fire flashed from the conducting-rod to his forehead, and killed him on the spot.

Brilliant as Dr. Franklin's discoveries in electricity were, and much as he advanced the science, by his sa-

gacious experiments and unwearied investigations, a rich harvest of further discoveries was left by him to the succeeding age. The most extraordinary of these is, the discovery of a modification of electricity, which bears the name of the philosopher by whom it was made known to the world;—I refer, of course, to Galvanism. Lewis Galvani was an anatomist, in Bologna. On a table in his study, lay some frogs, which had been prepared for a broth, for his wife, who was ill. An electrical machine stood on the table. A student of Galvani accidentally touched the nerve, on the inside of the leg of one of the frogs, and convulsions immediately took place in the body of the animal. Galvani himself was not present at the moment, but this curious circumstance caught the attention of his wife,—a lady of education and talent,—who ascribed it to some influence of the electrical machine. She informed her husband of what had happened, and it was his opinion, also, that the electrical machine was the origin of the convulsions. A long-continued and patient course of investigation corrected this error, and established the science of Galvanic electricity, nearly as it now exists, and which has proved, in the hands of Sir Humphrey Davy, the agent of the most brilliant and astonishing discoveries. Frogs have been a common article of food, in Europe, for ages; but it was only when they were brought into the study of the anatomist, and fell beneath the notice of a sagacious eye, that they became the occasion of this brilliant discovery.

In all these examples we see, that, whatever be the first origin of a great discovery or improvement, science and study are required to perfect and illustrate it. The want of a knowledge of the principles of science has often led men to waste much time on pursuits, which a better acquaintance with those principles would have taught them were hopeless. The patent office, in every country where such an institution exists, contains, perhaps, as many machines, which show the want, as the possession, of sound scientific knowledge. Besides unsuccess-

ful essays at machinery, holding forth a promise of feasibility, no little ingenuity, and much time and money, have been lavished on a project, which seems, in modern times, to supply the place of the philosopher's stone of the alchymists;—I mean, a contrivance for perpetual motion; a contrivance inconsistent with the law of gravity. A familiar acquaintance with the principles of science is useful, not only to guide the mind to the discovery of what is true and practical, but to protect it from the delusions of an excited imagination, ready to waste itself, in the ardor of youth, enterprise, and conscious ingenuity, on that, which the laws of Nature herself have made unattainable.

Such are some of the considerations, which show the general utility of scientific education, for those engaged in the mechanical arts. Let us now advert to some of the circumstances, which ought, particularly in the United States of America, to act as encouragements, to the young men of the country, to apply themselves earnestly, and, as far as it can be done, systematically, to the attainment of such an education.

I. And, first, it is beyond all question, that what are called the mechanical trades of this Country are on a much more liberal footing than they are in Europe. This circumstance not only ought to encourage those who pursue them, to take an honest pride in improvement, but it makes it their incumbent duty to do so. In almost every country of Europe, various restraints are imposed on the mechanics, which almost amount to slavery. Much censure has been lately thrown on the journeymen printers of Paris, for entering into combinations not to work for their employers, and for breaking up the power-presses, which were used by the great employing printers. I certainly shall not undertake to justify any acts of illegal violence, and the destruction of property. But, when you consider, that no man can be a master-printer, in France, without a license, and that only eighty licenses were granted in Paris, it is by no means wonderful, that the journeymen,

forbidden by law to set up for themselves, and prevented, by the power-presses, from getting work from others, should be disposed, after having carried through one revolution for the government, to undertake another for themselves. Of what consequence is it, to a man, forbidden by the law to work for his living, whether Charles X., or Louis Philip, is king?

In England, it is exceedingly difficult for a mechanic to obtain a settlement, in any town except that in which he was born, or where he served his apprenticeship. The object of imposing these restrictions is, of course, to enforce on each parish, the maintenance of its native poor; and the resort of mechanics, from place to place, is permitted, only on conditions with which many of them are unable to comply. The consequence is, they are obliged to stay where they were born; where, perhaps, there are already more hands than can find work; and, from the decline of the place, even the established artisans want employment. Chained to such a spot, where chance and necessity have bound him, the young man feels himself but half free. He is thwarted in his choice of a pursuit for life, and obliged to take up with an employment against his preference, because there is no opening in any other. He is depressed, in his own estimation, because he finds himself unprotected in society. The least evil, likely to befall him, is, that he drags along a discouraged and unproductive existence. He more naturally falls into dissipation and vice, or enlists in the army or navy; while the place of his nativity gradually sinks into decay.

In other countries, singular institutions exist, imposing oppressive burdens on the mechanical classes. I refer, now, more particularly, to the corporations, guilds, or crafts, as they are called, that is, to the companies formed by the members of a particular trade. These exist, with great privileges, in every part of Europe; in Germany, there are some features in the institution, as it seems to me, peculiarly oppressive. The different crafts, in that Country, are incorporations, recognised

by law, governed by usages of great antiquity, with funds to defray the corporate expenses, and in each considerable town, a house of entertainment is selected, as the house of call, (or harbor, as it is styled,) of each particular craft. No one is allowed to set up as a master-workman, in any trade, unless he is admitted as a freeman, or member of the craft; and such is the stationary condition of most parts of Germany, that, as I understand, no person is admitted as a master-workman, in any trade, except to supply the place of some one deceased, or retired from business. When such a vacancy occurs, all those, desirous of being permitted to fill it, present a piece of work, which is called their masterpiece, being offered to obtain the place of a master-workman. Nominally, the best workman gets the place; but you will easily conceive, that, in reality, some kind of favoritism must generally decide the question. Thus is every man obliged to submit to all the chances of a popular election, whether he shall be allowed to work for his bread; and that, too, in a country where the people are not permitted to have any agency in choosing their rulers.

But the restraints on journeymen, in that Country, are still more oppressive. As soon as the years of apprenticeship have expired, the young mechanic is obliged, in the phrase of the country, to *wander*, for three years. For this purpose, he is furnished, by the master of the craft in which he has served his apprenticeship, with a duly-authenticated wandering book, with which he goes forth, to seek employment. In whatever city he arrives, on presenting himself, with this credential, at the house of call, or harbor, of the craft in which he has served his time, he is allowed, gratis, a day's food and a night's lodging. If he wishes to get employment, in that place, he is assisted in procuring it. If he does not wish to get employment, or fails in the attempt, he must pursue his wandering; and this lasts, for three years, before he can be any where admitted as a master. I have heard it argued, that this system had the

advantage of circulating knowledge, from place to place, and imparting to the young artisan the fruits of travel and intercourse with the world. But, however beneficial travelling may be, when undertaken by those who have the taste and capacity to profit by it, I cannot but think, that, to compel every young man, who has just served out his time, to leave his home, in the manner I have described, must bring his habits and morals into peril, and be regarded rather as a hardship, than as an advantage. There is no sanctuary of virtue, like home.

You will see, from these few hints, the nature of some of the restraints and oppressions, to which the mechanical industry of Europe is subjected. Whereever governments and corporations thus interfere with private industry, the spring of personal enterprise is unbent. Men are depressed, with a consciousness of living under control. They cease to feel a responsibility for themselves, and, encountering obstacles, whenever they step from the beaten path, they give up improvement, as hopeless. I need not, in the presence of this audience, remark on the total difference of things in America. We are apt to think, that the only thing, in which we have improved on other countries, is our political constitution, whereby we choose our rulers, instead of recognising their hereditary right. But a much more important difference, between us and foreign countries, is wrought into the very texture of our society; it is, that generally pervading freedom from restraint, in matters like those I have just specified. In England, it is said, that forty days' undisturbed residence in a parish gives a journeyman mechanic a settlement, and consequently entitles him, should he need it, to support, from the poor rates of that parish. To obviate this effect, the magistrates are on the alert, and instantly expel a new-comer from their limits, who does not possess means of giving security, such as few young mechanics command. A duress like this, environing the young man, on his entrance into life, upon every

side, and condemning him to imprisonment, for life, on the spot where he was born, converts the government of the country, whatever be its name, into a despotism.

II. There is another consideration, which invites the artisans of this Country to improve their minds; it is the vastly wider field which is opened to them, as the citizens of a new country; and the proportionate call which exists, for labor and enterprise, in every department. In the Old World, society is full. In every country, but England, it has long been full. It was in that Country not less crowded, till the vast improvements in machinery and manufacturing industry were made, which have rendered it, in reference to manufactures and commerce, what ours is, still more remarkably, in every thing, a new country, a country of urgent and expansive demand, where new branches of employment are constantly opening, new kinds of talent called for, new arts struck out, and more hands employed, in all the old ones. In different parts of our Country, the demand is of a different kind, but it is active and stirring every where.

It may not be without use, to consider the various causes of this enlargement of the field of action, in this Country.

The first and perhaps the main cause is, the great abundance of good land, which lies open, on the easiest conditions, to every man who wishes to avail himself of it. Land of the first quality can be purchased, at the rate of one dollar and twenty-five cents per acre. This circumstance, alone, acts like a safety-valve to the great social steam-engine. There can be no very great pressure, any where, in a community, where, by travelling a few hundred miles into the interior, a man can buy land at the rate of an acre for a day's work. This was the first stimulus, applied to the condition of things, in this Country, after the Revolutionary War, and it is still operating, in full force.

The next powerful spring to our industry was felt

in the navigating interest. This languished, greatly, under the old Confederation, being crushed by foreign competition. The adoption of the Constitution breathed the breath of life into it. By the duty on foreign tonnage, and by the confinement of the privilege of an American vessel to an American-built ship, our commercial marine sprang into existence, with the rapidity of magic, and, under a peculiar state of things in Europe, appropriated to itself the carrying trade of the world.

Shortly after this stimulus was applied to the industry of the Northern and Middle States, the Southern States acquired an equally prolific source of wealth, unexpected, and rapid beyond example in its operation; —I mean, the cultivation of cotton. In 1789, the hope was expressed, by southern members of Congress, that, if good seed could be procured, cotton might be raised in the Southern States, where, before that time, and for several years after, not a pound had been raised for exportation. The culture of this beautiful staple was encouraged, by a duty of three cents a pound, on imported cotton; but it languished, for some time, on account of the difficulty of separating the seed from the fibre. At length, Eli Whitney,* of Connecticut, invented the saw-gin; and so prodigiously has this culture increased, that it is calculated that the cotton crop, of last year, amounted to one million of bales, of at least three hundred pounds each.

In 1807, the first successful essays were made with steam navigation. The progress, at first, was slow. In 1817, there was not such a thing, as a regular line of steam-boats on the western waters. Nearly four hundred steam-boats now ply those waters, and half as many navigate the waters of the Atlantic coast.

The embargo and war created the manufactures of

* For a notice of Whitney's cotton-gin, see Vol. I. of 'The Useful Arts, considered in connexion with the Applications of Science,' by Jacob Bigelow, M. D., forming the eleventh volume of 'THE SCHOOL LIBRARY.'

the United States. Before that period, nothing was done, on a large scale, in the way of manufactures. With some fluctuations in prosperity, they have succeeded in establishing themselves on a firm basis. A laboring man can now buy two good shirts, well made, for a dollar. Fifteen years ago, they would have cost him three times that sum.

Still more recently, a system of internal improvements has been commenced, which will have the effect, when a little further developed, of crowding within a few years, the progress of generations. Already, Lake Champlain, from the north, and Lake Erie, from the west, have been connected with Albany. The Delaware and Chesapeake Bays have been united. A canal is nearly finished, in the upper part of New Jersey, from the Delaware to the Hudson, by which coal is already despatched to our market. Another route is laid out, across the same State, to connect New York, by a rail-road, with Philadelphia. A water-communication has been opened, by canals, half way from Philadelphia to Pittsburgh. Considerable progress is made, both on the rail-road and the canal, which are to unite Baltimore and Washington with the Ohio river. A canal of sixty miles in length is open, from Cincinnati to Dayton, in the State of Ohio; and another, of more than three hundred miles in extent, to connect Lake Erie with the Ohio, is two thirds completed.*

I mention these facts, (which, though among the most considerable, are by no means all, of the same character, which might be quoted,) not merely, as being in themselves curious and important; though this they are, in a high degree. My object is, to turn your attention to their natural effect, in keeping up a constant and high demand for labor, art, skill, and talent of all kinds, and their accumulated fruits, that is, capital; and thereby particularly inviting the young, to exert themselves

* Most of the works here mentioned, as being in progress, in 1827, are now (1840) completed, and innumerable others have since been undertaken or projected.

strenuously, to take an active, industrious, and honorable part, in a community, which has such a variety of employments and rewards for all its members. The rising generation beholds before it *not* a *crowded* community, but one where labor, both of body and mind, is in greater request, and bears a higher relative price, than in any other country. When it is said that labor is dear in this Country, this is not a mere commercial proposition, like those which fill the pages of the price current; but it is a great *moral fact*, speaking volumes, as to the state of society, and reminding the American citizen, particularly the young man who is beginning life, that he lives in a country, where every man carries about with him the thing in greatest request; where the labor and skill of the human hands, and every kind of talent and acquisition, possess a relative importance; elsewhere unknown; in other words, where an *industrious man* is of the greatest consequence.

These considerations are well calculated to awaken enterprise, to encourage effort, to support perseverance; and we behold, on every side, that such is their effect. I have already alluded to the astonishing growth of our navigation, after the adoption of the Federal constitution. It affords an example, which will bear dwelling upon, of American enterprise, placed in honorable contrast with that of Europe. In Great Britian, and in other countries of Europe, the India and China trade was, and to a great degree still is, locked up, by the monopoly enjoyed by affluent companies, protected and patronised by the state, and clothed, themselves, in some cases, with imperial power. The territories of the British East India Company are computed to embrace a poplation of one hundred and fifteen millions of souls. The consequence of this state of things was, not the activity, but the embarrassment, of the commercial intercourse with the East. Individual enterprise was not awakened. The companies sent out, annually, their unwieldy vessels, of twelve hundred tons burden, commanded by salaried captains, to carry on the commerce,

which was secured to them, by a government monopoly, and which, it was firmly believed, could not be carried on, in any other way. Scarcely was American Independence declared, when our moderate-sized merchant vessels, built with economy, and navigated with frugality, doubled both the great capes of the world. The northwestern coast of America began to be crowded. Not content with visiting old markets, our intelligent shipmasters explored the numerous islands of the Indian Archipelago. Vessels from Salem and Boston, of two and three hundred tons, went to ports in those seas, that had not been visited, by a foreign ship, since the days of Alexander the Great. The intercourse between Boston and the Sandwich Islands was uninterrupted. A man would no more have thought of boasting, that he had been round the world, than that he had been to Liverpool. After Lord Anson and Captain Cook had, by order and at the expense of the British government, made their laborious voyages of discovery and exploration in the Pacific Ocean, and on the coast of America, it still remained for a merchant vessel, from Boston, to discover and enter the only considerable river that flows into the Pacific, from Behring's Strait to Cape Horn. Our fellow-citizen, Captain Gray, piloted the British admiral, Vancouver, into the Columbia river, over which, the British government now claims jurisdiction, partly on the ground of prior discovery.

This is a single instance of the propitious effect, on individual enterprise, of the condition of things under which we live. But the work is not all done; it is, in fact, hardly begun. This vast continent is, as yet, nowhere fully stocked,—almost every where thinly peopled. There are yet mighty regions of it, in which the settler's axe has never been heard. These remain, and portions of them will long remain, open for coming generations, a sure preservative against the evils of a redundant population on the seaboard. The older parts of the country, which have been settled by the

husbandman, and reclaimed from the state of nature, are now to be settled, again, by the manufacturer, the engineer, and the mechanic. First settled by a civilized, they are now to be settled by a dense, population. Settled by the hard labor of the human hands, they are now to be settled by the labor-saving arts, by machinery, by the steam-engine, and by internal improvements. Hitherto, the work to be done was that, which nothing but the tough sinews of the arm of man could accomplish. This work, in most of the old States, and some of the new ones, has been done, and is finished. It was performed, under incredible hardships, fearful dangers, with heart-sickening sacrifices, amidst the perils of savage tribes, and of the diseases incident to a soil, on which deep forests, for a thousand years, had been laying their deposit, and which was now, for the first time, opened to the sun. The kind, the degree, the intensity, of the labor, which has been performed by the men who settled this Country, have, I am sure, no parallel in history. I believe, if a thrifty European farmer from Norfolk, in England, or from Flanders, a vine-dresser from Burgundy, an olive-gardener from Italy, under the influence of no stronger feelings than such as actuate the mass of the stationary population of those countries, were set down, in a North American forest, with an axe on his shoulder, and told to get his living, that his heart would fail him at the sight. What has been the slow work of two thousand years, in Europe, has here been effected in two hundred, unquestionably under the cheering moral effect of our free institutions. We have now, in some parts of the United States, reached a point in our progress, where, to a considerable degree, a new form of society will appear; in which the wants of a settled country, and a comparatively dense population, will succeed to those of a thin population, scattered over a soil, as yet but partially reclaimed. We shall henceforth feel, more and more, the want of improved means of communication. We must, in every direction, have turnpike roads, unob-

structed rivers, canals, rail-roads, and steam-boats. The mineral treasures of the earth,—metals, coals, ochres, fine clay, limestone, gypsum, salt,—are to be brought to light, and applied to the purposes of the arts, and the service of man. Another immense capital, which Nature has invested for us, in the form of water-power, (a natural capital, which I take to be fully equal to the steam capital of Great Britain,) is to be turned to account, by being made to give motion to machinery. Still another vast capital, lying unproductive, in the form of land, is to be realized, and no small part of it, for the first time, by improved cultivation. All the manufactures are to be introduced, on a large scale; the coarser, where it has not been done, without delay; and the finer, in rapid succession, and in proportion to the acquisition of skill, the accumulation of capital, and the improvement of machinery. With these, will grow up, or increase, the demand for various institutions for education; the call for every species of intellectual service; the need for every kind of professional assistance, a demand rendered still more urgent, by a political organization, of itself in the highest degree favorable to the creation and diffusion of energy, throughout the Commonwealth.

These are so many considerations, which call on the rising generation of those destined for the active and mechanical arts, *to improve their minds.* It is only in this manner, that they can effectually ascertain the true bent of their own faculties, and, having ascertained it, employ themselves, with greatest success, in the way for which Providence has fitted them. It is only in this manner, that they can make themselves highly respected in society, and secure to themselves the largest share of those blessings, which are the common objects of desire. In most of the countries of the older world, the greatest part of the prizes of life are literally distributed by the lottery of birth. Men are born to wealth, which they cannot alienate; to power, from which they cannot, without a convulsion of the body

politic, be removed; or to poverty and depression, from which, generally speaking, they cannot emerge. Here, it rarely happens, that, even for a single generation, an independence can be enjoyed, without labor and diligence bestowed on its acquisition and preservation; while, as a general rule, the place, to which each individual shall rise in society, is precisely graduated on the scale of capacity and exertion,—in a word, of merit. Every thing, therefore, that shows the magnitude and growth of the country, its abundance and variety of resources, its increasing demand for all the arts, both of ornament and utility, is another reason, calling upon the emulous young men, of the working classes, to enter into the career of improvement, where there is the fullest scope for generous competition, and every talent, of every kind, is sure to be required, honored, and rewarded.

There is another reflection, which ought not to be omitted. The rapid growth and swift prosperity of the country have their peculiar attendant evils, in addition to those inseparable from humanity. To resist the progress of these evils, to provide, seasonably and efficaciously, the moral and reasonable remedy of those disorders of the social system, to which it may be more particularly exposed, is a duty to be performed by the enlightened and virtuous portion of the mass of the community, quite equal, in importance, to any other duty, which they are called to discharge. In Europe, it is too much the case, that the virtuous influences, which operate on the working classes, come down from the privileged orders, while the operatives, as they are called, are abandoned to most of the vices of the most prolific source of vice,—ignorance. It is of the utmost importance, in this Country, that the active walks of life should be filled by an enlightened class of men, with a view to the security and order of the community, and to protect it from those evils, which have been thought, in Europe, to be inseparable from the great increase of the laboring population. What is done, in

other countries, by *gens d'armes* and horse-guards, must here be done by public sentiment, or not at all. An enlightened moral public sentiment must spread its wings over our dwellings, and plant a watchman at our doors. It is perfectly well known, to all who hear me, that, as a class, the mechanic and manufacturing population of Europe is regarded as grossly depraved; while the agricultural population, with as little exception, is set down as incurably stupid. This conviction was so prevalent, that many of the most patriotic of *our* citizens were opposed to the introduction of manufactures among us, partly on the ground, that factories are, in their nature, seminaries of vice and immorality. Thus far, this fear has been most happily relieved, by experience; and it is found, that those establishments are as little open to reproach, on the score of morals, as any other in the community. Our mechanic and agricultural population will, in this part of the country, support the comparison, for general intelligence and morality, with any in the world. This state of things, if it can be rendered permanent, is a great social triumph, and will be, to America, a juster subject of self-gratulation, than any thing belonging merely to the political, economical, and physical, growth of the community. It deserves the consideration of every patriot, that the surest way of perpetuating and diffusing this most enviable state of things,—this most desirable of all the advantages, which we can have over the Old World,—is, to multiply the means of improving the mind, and put them within the reach of all classes. An intelligent class can scarce ever be, as a class, vicious; never, as a class, indolent. The excited mental activity operates as a counterpoise to the stimulus of sense and appetite. The new world of ideas; the new views of the relations of things; the astonishing secrets of the physical properties and mechanical powers, disclosed to the well-informed mind, present attractions, which, unless the character is deeply sunk, are sufficient to counterbalance the taste for frivolous or corrupt pleasures;

and thus, in the end, a standard of character is created in the community, which, though it does not invariably save each individual, protects the virtue of the mass.

III. I am thus brought to the last consideration, which I shall mention, as an encouragement to the mechanic classes to improve their minds; and that is, the comparatively higher rank, which our institutions assign to them, in the political system. One of the great causes, no doubt, of the enterprise and vigor, which have already distinguished our countrymen, in almost every pursuit, is, the absence of those political distinctions, which are independent of personal merit and popular choice. It is the strongest motive that we can suggest, for unremitted diligence in the acquisition of useful knowledge, on the part of the laborious classes, that they have a far more responsible duty to discharge to society, than ever devolved on the same class, in any other community. Every book of travels, not less than every opportunity of personal observation, informs us of the deplorable ignorance of a great part of those, by whom the work of the community is done, in foreign countries. In some parts of England, this class is more enlightened, than it is on the continent of Europe; and in that Country, great efforts are making, at the present time,—and particularly through the instrumentality of institutions like that, under the auspices of which we are now assembled,—to extend the means of education to those who have hitherto been deprived of them. But it is a party question among them, not how far it is right and proper, but how far it is prudent and safe, to enlighten the people; and, while the liberal party in England are urgent for the diffusion of useful knowledge, to prevent the people from breaking out into violence and revolution, the opposite party exclaim against a further diffusion of knowledge, as tending to make the people discontented with their condition. I remember to have seen, not long since, a charge to the grand jury, by an English judge, in which the practice of boxing is

commended, and the fear is expressed, that popular education has been pushed too far!

The man who should, in this Country, express the opinion, that the education of the people foreboded ill to the state, would merely be regarded as wanting common judgement and sagacity. We are not only accustomed to that state of things, but we regard it as our great blessing and privilege, to which the higher orders in Europe look forward, as the fearful result of bloody revolutions. The representative system, and our statute of distributions, are regarded by us, not as horrors consequent upon a convulsion of society, but as the natural condition of the body politic.

This condition of the country, however, is not to be regarded merely as a topic of lofty political declamation. Its best effects are, and must be, those which are not immediately of a political character. If the mass of the people behold no privileged class, placed invidiously above them; if they choose those who make and administer the laws; if the extent of public expenditure is determined by those who bear its burden,—this, surely, is well; but, if the mass of the people, here, were what it is in most parts of Europe, it may be doubted, whether such a system would not be too good for them. Who would like to trust his life and fortune to a Spanish jury, or a Neapolitan jury? Under the reign of Napoleon, an attempt was made to introduce the trial by jury, not only into France, but into some of the dependent kingdoms. It has been stated, that, when the peasants of some of these countries were empannelled in the jury-box, they not only considered it an excessively onerous and irksome duty, but showed themselves utterly incapable of discharging it, with sufficient discretion and intelligence.

The great use, then, to be made of popular rights, should be, popular improvement. Let the young man, who is to gain his living by his labor and skill, remember that he is a citizen of a free state; that on him and his contemporaries it greatly depends, whether he

will be prosperous, himself, in his social condition, and whether a precious inheritance of social blessings shall descend, unimpaired, to those who come after him; that there is no important difference in the situation of individuals, but that which they themselves cause or permit to exist; that, if something of the inequality, in the goods of fortune, which is inseparable from human things, exist in this Country, it ought to be viewed only as another excitement to that industry, by which, nine times out of ten, wealth is acquired, and still more, to that cultivation of the mind, which, next to the moral character, makes the great difference between man and man. The means of education are already ample and accessible; and it is for the majority of the community, by a tax, of which the smallest proportion falls on themselves, to increase these means to any desirable extent.

These remarks apply, with equal force, to almost every individual. There are some considerations, which address themselves, more exclusively, to the ardent mind, emulous of the praise of excelling. Such cannot realize, too soon, that we live in an age of improvement; an age, in which investigation is active and successful, in every quarter; and in which, what has been effected, however wonderful, is but the brilliant promise of what may further be done. The important discoveries, which have been made in almost every department of human occupation, speculative and practical, within less than a century, are almost infinite.

To speak only of those which minister most directly to the convenience of man,—what changes have not been already wrought, in the condition of society; what addition has not been made, to the wealth of nations and the means of private comfort, by the inventions, discoveries, and improvements, of the last hundred years? High in importance, among these, are the increased facilities for transportation. By the use of the locomotive steam-engine, upon rail-roads, passengers and merchandise may now be conveyed, from

place to place, at the rate of fifteen and even twenty miles an hour. Although not to be compared with this, the plan of M'Adam is eminently useful, consisting, as it does, of a method, by which a surface, as hard as a rock, can be carried along, over any foundation, at an expense not much greater, and, under some circumstances, not at all greater, than that of turnpike roads on the old construction. By the chemical process of bleaching, what was formerly done by exposure to the sun and air, for weeks, is now done, under cover, in a few days. By the machinery for separating the seed from the staple of cotton, the value of every acre of land, devoted to the culture of this most important product, has, to say the least, been doubled. By the machinery for carding, spinning, and weaving, cotton, the price of a yard of durable cotton cloth has been reduced, from half a dollar to a few cents. Lithography and stereotype printing are destined to have a very important influence, in enlarging the sphere of the operations of the press. By the invention of gas lights, an inflammable air, yielding the strongest and purest flame, is extracted in a laboratory, and conducted, under ground, all over a city, and brought up wherever it is required, in the street, in the shop, in the dwelling-house. The safety-lamp enables the miner to walk, unharmed, through an atmosphere of explosive gas. And, last and chiefest, the application of steam, as a general moving power, is rapidly extending its effect, from one branch of industry to another, from one interest to another, of the community, and bids fair, within no distant period, to produce the most essential changes in the social condition of the world. All these beautiful, surprising, and most useful, discoveries and improvements have been made, within less than a century; most of them, within less than half that time.

What must be the effect of this wonderful multiplication of ingenious and useful discoveries and improvements? Undoubtedly *this*, that, in addition to all their immediate beneficial consequences, they will lead to

further discoveries, and still greater improvements. Of that vast system, which we call Nature, and of which, none but its Author can comprehend the whole, the laws and the properties, that have as yet been explored, unquestionably form but a portion, connected with a grand succession of parts yet undiscovered, by an indissoluble although an unseen chain. Each new truth that is found out, besides its own significance and value, is a step to the knowledge of further truth, leading off the inquisitive mind, on a new track, and upon some higher path; in the pursuit of which, new discoveries are made, and the old are brought into new and unexpected connexions.

The history of human science is a collection of facts, which, while it proves the connexion with each other of truths and arts, at first view remote and disconnected, encourages us to scrutinize every department of knowledge, however trite and familiar it may seem, with a view to discovering its relation with the laws and properties of Nature, comprehended within it, but not yet disclosed. The individual, who first noticed the attractive power of magnetic substances, was gratified, no doubt, with observing a singular and inexplicable property of matter, which he may have applied to some experiments, rather curious than useful. The man, who afterwards observed the tendency of a magnetized body toward the poles of the earth, unfolded a far more curious and important law of Nature, but one which, resting there, was productive of no practical consequences. Then came the sagacious individual, who, attaching the artificial magnet to a traversing card, contrived the means of steering a vessel, in the darkest night, across the high seas. To him, we cannot suppose that the important consequences of his discovery were *wholly* unperceived; but since, in point of history, near two centuries passed away, before they were extensively developed, we can hardly suppose, that the inventor of the mariner's compass caught more than a glimpse of the nature of his invention. The Chinese are supposed to

have been acquainted with it, as also with the art of printing, from time immemorial, without having derived, from either, any of those results, which have changed the aspect of modern Europe. Then came Columbus. Guided by the faithful pilot, which watches when the eye of man droops,—the patient little steersman, which darkness does not blind, nor the storm drive from its post,—Columbus discovered a New World;—a glorious discovery, as he, no doubt, felt it to be, both in anticipation and achievement. But it does not appear, that even Columbus had indulged a vision more brilliant, than that of a princely inheritance for his own family, and a rich colony for Spain;—a vision, fulfilled in his own poverty and chains, and in the corruption and degeneracy of the Spanish monarchy. And yet, from his discovery of America, so disastrous to himself and country, have sprung, directly or indirectly, most of the great changes of the political, commercial, and social, condition of man, in modern times. It is curious, also, to reflect, that, as the Chinese, from time immemorial, (as has just been remarked,) have possessed the mariner's compass and the art of printing, to little purpose; so they, or some people in their neighborhood, on the north-eastern coast of Asia, either with the aid of the compass, or merely by coasting from island to island, appear to have made the discovery of America, on the western side of the continent, ages before it was discovered by Columbus, on the eastern side, without, however, deriving from this discovery, any beneficial consequences, to the Old World or the New. It was left for the spirit of civilization, awakened in western Europe, toward the close of the fifteenth century, to develope and put in action the great elements of power and light, latent in this discovery.

Its first effect was the establishment of the colonial system, which, with the revolution in the financial state of Europe, occasioned by the opening of the American mines, gave, eventually, a new aspect to both hemispheres. What the sum total of all these consequences

has been, may be partly judged, from the fact, that the colonization of the United States is but one of them. The further extension of adventures of discovery was facilitated by new scientific inventions and improvements. The telescope was contrived, and, from the movements of the heavenly bodies, more accurately observed, tables of longitude were constructed, which gave new confidence to the navigator. He now visits new shores, lying in different climates, whose productions, transplanted to other regions, or introduced into the commerce of the world, give new springs to industry, open new sources of wealth, and lead to the cultivation of new arts. It is unnecessary to dwell on particulars; but who can estimate the full effect, on social affairs, of such products as sugar, coffee, tea, rice, tobacco, the potato, cotton, indigo, the spices, the dye-woods, the mineral and fossil substances, newly made to enter into general use and consumption; the discovery, transportation, and preparation of which, are so many unforeseen effects of former discoveries? Each of these, directly or indirectly, furnished new materials for the mind to act upon; new excitement to its energies. Navigation, already extended, receives new facilities, from the use of the chronometer. The growing wealth of the community increases the demand for all the fabrics of industry; the wonderful machinery for carding, spinning, and weaving, is contrived; water and vapor are made to do the work of human hands, and almost of human intellect; as the cost of the fabric decreases, the demand for it multiplies, geometrically, and furnishes an ever-growing reward for the exertions of the ever-active spirit of improvement. Thus, a mechanical invention may lead to a geographical discovery; a physical cause, to a political or an intellectual effect. A discovery results in an art; an art produces a comfort; a comfort, made cheaply accessible, adds family on family to the population; and a family is a new creation of thinking, reasoning, inventing, and discovering, beings. Thus, instead of arriving at the end, we are at the beginning

of the series, and ready to start, with recruited numbers, on the great and beneficent career of useful knowledge.

What, then, are these great and beneficial discoveries, in their origin? What is the process which has led to them? They are the work of rational man, operating upon the materials existing in Nature, and observing the laws and properties of the physical world. The Creator of the universe has furnished us the material; it is all around us, above us, and beneath us: in the ground under our feet; the air we breathe; the waters of the ocean, and of the fountains of the earth; in the various subjects of the kingdoms of Nature. We cannot open our eyes, nor stretch out our hands, nor take a step, but we see, and handle, and tread upon, the things, from which the most wonderful and useful discoveries and inventions have been deduced. What is gunpowder, which has changed the character of modern warfare? It is the mechanical mixture of some of the most common and least costly substances. What is the art of printing? A contrivance less curious, as a piece of mechanism, than a musical box. What is the steam-engine? An apparatus for applying the vapor of boiling water. What is vaccination? A trifling ail, communicated by a scratch of the lancet, and capable of protecting human life against one of the most dreadful maladies to which it is exposed.

And are the properties of matter all discovered? its laws all found out? the uses to which they may be applied all detected? I cannot believe it. We cannot doubt, that truths, now unknown, are in reserve, to reward the patience and the labors of future lovers of truth, which will go as far beyond the brilliant discoveries of the last generation, as these do beyond all that was known to the ancient world. The pages are infinite, in that great Volume, which was written by the Hand Divine, and they are to be gradually turned, perused, and announced, to benefited and grateful generations, by genius and patience; especially by patience; by un-

tiring, enthusiastic, self-devoting patience. The progress, which has been made in art and science, is indeed vast. We are ready to think a pause must follow; that the goal must be at hand. But there is no goal; and there can be no pause; for art and science are, in themselves, progressive and infinite. They are moving powers, animated principles; they are instinct with life; they are themselves the intellectual life of man. Nothing can arrest them, which does not plunge the entire order of society into barbarism. There is no end to truth, no bound to its discovery and application; and a man might as well think to build a tower, from the top of which he could grasp Sirius in his hand, as prescribe a limit to discovery and invention.

Never do we more evince our arrogant ignorance, than when we boast our knowledge. True Science is modest; for her keen, sagacious eye discerns, that there are deep, undeveloped mysteries, where the vain sciolist sees all plain. We call this an age of improvement, as it is. But the Italians, in the age of Leo X., and with great reason, said the same of their age; the Romans, in the time of Cicero, the same of theirs; the Greeks, in the time of Pericles, the same of theirs; and the Assyrians and Egyptians, in the flourishing periods of their ancient monarchies, no doubt, the same of theirs. In passing from one of these periods to another, prodigious strides are often made; and the vanity of the present age is apt to flatter itself, that it has climbed to the very summit of invention and skill. A wiser posterity at length finds out, that the discovery of one truth, the investigation of one law of Nature, the contrivance of one machine, the perfection of one art, instead of narrowing, has widened the field of knowledge still to be acquired, and given to those who came after, an ampler space, more numerous data, better instruments, a higher point of observation, and the encouragement of living and acting in the presence of a more intelligent age. It is not a century, since the number of fixed stars was estimated at about three thousand. Newton had count-

ed no more. When Dr. Herschel had completed his great telescope, and turned it to the heavens, he calculated, that two hundred and fifty thousand stars passed through its field, in a quarter of an hour!

It may not irreverently be conjectured to be the harmonious plan of the universe, that its two grand elements of mind and matter should be accurately adjusted to each other; that there should be full occupation, in the physical world, in its laws and properties, and in the moral and social relations connected with it, for the contemplative and active powers of every created intellect. The imperfection of human institutions has, as far as man is concerned, disturbed the pure harmony of this great system. On the one hand, much truth, discoverable even at the present stage of human improvement, as we have every reason to think, remains undiscovered. On the other hand, thousands and millions of rational minds, for want of education, opportunity, and encouragement, have remained dormant and inactive, though surrounded, on every side, by those qualities of things, whose action and combination, no doubt, still conceal the sublimest and most beneficial mysteries.

But a portion of the intellect, which has been placed on this goodly theatre, is wisely, intently, and successfully active; ripening, even on earth, into no mean similitude of higher natures. From time to time, a chosen hand, sometimes directed by what is called chance, but more commonly guided by reflection, experiment, and research, touches, as it were, a spring, until then unperceived; and, through what seemed a blank and impenetrable wall, the barrier to all farther progress, a door is thrown open, into some before unexplored hall, in the sacred temple of truth. The multitude rushes in, and wonders that the portals could have remained concealed, so long. When a brilliant discovery or invention is proclaimed, men are astonished, to think how long they have lived on its confines, without penetrating its nature.

It is now a hundred years, since it was found out that the vapor of boiling water is, as we now think it, the most powerful mechanical agent within the control of man. And yet, even after the contrivance of the steam-engine, on a most improved construction, and although the thoughts of numerous ingenious mechanicians were turned to the subject, and various experiments made, it was left for our fellow-citizen, Fulton, in a successful application of this agent, as brilliant as its first discovery, to produce another engine,—the steam-boat,—of incalculable utility and power. The entire consequences of this discovery cannot yet be predicted: but there is one prediction, relative to it, and that among the first ever made, which has been most calamitously fulfilled. When the interests of Mr. Fulton, under the laws of New York, were maintained by Mr. Emmet, at the bar of the legislature of that State, at the close of his argument, he turned to his client, in an affecting apostrophe; and, after commending the disinterestedness with which he devoted his time, talents, and knowledge, to enterprises and works of public utility, to the injury of his private fortunes, he added: "Let me remind you, however, that you have other and closer ties. I know the pain I am about to give, and I see the tears I make you shed. But by that love, I speak,—by that love, which, like the light of heaven, is refracted in rays of different strength, upon your wife and children, which, when collected and combined, forms the sunshine of your soul;—by that love I do adjure you, provide, in time, for those dearest objects of your care. Think not, I would instil into your mind a mean or sordid feeling; but now, that wealth is passing through your hands, let me entreat you to hoard it, while you have it." And then, after sketching the dangers which threatened his interests, as guarantied by the laws of the State, Mr. Emmet prophetically added: "Yes, my friend, my heart bleeds, while I utter it, but I have fearful forebodings, that you may hereafter find, in public faith, a broken staff for your support, and re-

ceive, from public gratitude, a broken heart for your reward." From the time this prediction was uttered, the stupendous consequences of the invention of Fulton have been, every day, more and more amply developed. It has brought into convenient neighborhood with each other, some of the remotest settlements on the waters of the United States. It has made the Mississippi navigable up stream as well as down, (which it hardly was before,) incredibly accelerating, in time of peace, the settlement of its mighty valley, and making it, henceforth, safe from attack, in time of war. It has added, beyond all estimate, to the value of the time, and to the amount of the capital, of a large portion of the population of the country; and, without impairing the importance of these benefits to America, has as signally imparted them, or similar benefits, to Europe, and the rest of the civilized world. While these grand developements of the character of Fulton's invention have been taking place, the life, the estate, the family, of the great inventor, have, one after another, been sacrificed and crushed. Within a few months after the eloquent appeal, just recited, was made, Fulton actually died of disease contracted by exposure in the gratuitous service of the public. In a few years, a decision of the Supreme Court of the United States scattered the remains of his property to the winds; and twice or thrice, since that period, has an appeal been made to Congress, on behalf of his orphan children, for such a provision as would spare them from the alternative of charity or starvation,—and it has been made in vain.*

But it is time to return to the facts, with which I was illustrating the wonderful advances made, from time to time, in the cultivation or application of the most familiar arts. As far back as human history runs, the use of the distaff and loom is known; but it is not yet

* At the time this passage was pronounced, before the Columbian Institute, in the hall of the House of Representatives, an application in favor of the family of Fulton was before Congress, on the report of a Committee, of which the Author was a member.

one hundred years since Sir Richard Arkwright* was born,—the poor journeyman barber, the youngest of thirteen children, who began and perfected the most important improvements in the machinery for manufacturing cotton, which (as has been stated on the most respectable English authority) "bore the English nation triumphantly through the wars of the French revolution," and are unquestionably of greater value to her than all her colonies, from Hindostan to Labrador.

The ocean which lies between America and Europe may be crossed in a fortnight; but, after the fleets of Tyre, of Carthage, of Rome, and of the maritime powers of the middle ages, had been, for thousands of years, accustomed to navigate the sea, it was reserved for a poor Genoese pilot, begging his way from court to court, and by the simple process of sailing on one course as long as he had water to float his ship, to discover a New World.

Our geographical knowledge shows us, that we do not, like so many generations of our predecessors, live within the reach of other undiscovered continents; but we do unquestionably live, act, and speculate, within the reach of properties and powers of things, whose discovery and application (when they take place) will effect changes in society, as great as those produced by the magnet, the discovery of America, the art of printing, or the steam-boat. We do doubtless live within the reach of undiscovered worlds of science, art, and improvement. No royal permission is requisite to launch forth on the broad sea of discovery that surrounds us,—most full of novelty where most explored; and it may yet be reserved, for the modest and secluded lover of truth and votary of science, in the solitude of his humble researches, or the intelligent mechanic, in the discharge of his daily labors, to lay open such laws of matter, as will affect the condition of the civilized world.

This, then, is the encouragement we have, to engage

* See note on page 77.

in any well-conceived enterprise for the diffusion of useful knowledge and the extension of general improvement. Wherever there is a human mind, possessed of the common faculties, and placed in a body organized with the common senses, there is an active, intelligent being, competent, with proper cultivation, to the discovery of the highest truths, in the natural, the social, and the political, world. It is susceptible of demonstration, if demonstration were necessary, that the number of useful and distinguished men, which are to benefit and adorn society around us, will be exactly proportioned, upon the whole, to the means and encouragements to improvement, existing in the community; and every thing, which multiplies these means and encouragements, tends, in the same proportion, to the multiplication of inventions and discoveries, useful and honorable to man. The mind, although it does not stand in need of high culture, for the attainment of great excellence, does yet stand in need of some culture, and cannot thrive and act without it. When it is once awakened, and inspired with a consciousness of its own powers, and nourished into vigor by the intercourse of kindred minds, either through books or living converse, it does not disdain, but it needs not, further extraneous aid. It ceases to be a pupil; it sets up for itself; it becomes a master of truth, and goes fearlessly onward, sounding its way, through the darkest regions of investigation. But it is almost indispensable, that, in some way or other, the elements of truth should be imparted from kindred minds; and, if these are wholly withheld, the intellect, which, if properly cultivated, might have soared with Newton to the boundaries of the comet's orbit, is chained down to the wants and imperfections of mere physical life, unconscious of its own capacities, and unable to fulfil its higher destiny.

Contemplate, at this season of the year,* one of the magnificent oak trees of the forest, covered with thousands and thousands of acorns. There is not one of

* The month of November.

those acorns, that does not carry within itself the germ of a perfect oak, as lofty and as wide-spreading as the parent stock; which does not enfold the rudiments of a tree, that would strike its roots in the soil, and lift its branches toward the heavens, and brave the storms of a hundred Winters. It needs, for this, but a handful of soil, to receive the acorn as it falls, a little moisture to nourish it, and protection from violence till the root is struck. It needs but these; and these it does need, and these it must have; and for want of them, trifling as they seem, there is not one out of a thousand, of those innumerable acorns, which is destined to become a tree.

Look abroad, through the cities, the towns, the villages, of our beloved Country, and think of what materials their population, in many parts already dense, and every where rapidly growing, is, for the most part, made up. It is not made up of lifeless enginery, of animated machines, of brute beasts, trained to subdue the earth: but of rational, intellectual beings. There is not a mind, of the hundreds of thousands in our community, that is not capable of making large progress in useful knowledge; and no one can presume to tell, or limit, the number of those, who are gifted with all the talent required for the noblest discoveries. They have naturally all the senses and all the faculties,—I do not say, in as high a degree, but who shall say in no degree?—possessed by Newton, or Franklin, or Fulton. It is but a little, which is wanted, to awaken every one of these minds to the conscious possession and the active exercise of its wonderful powers. But this little, generally speaking, is indispensable. How much more wonderful an instrument is an eye than a telescope! Providence has furnished this eye; but art must contribute the telescope, or the wonders of the heavens remain unnoticed. It is for want of the little, that human means must add to the wonderful capacity for improvement born in man, that by far the greatest part of the intellect, innate in our race, perishes undevel-

oped and unknown. When an acorn falls upon an unfavorable spot, and decays there, we know the extent of the loss,—it is that of a tree, like the one from which it fell; but when the intellect of a rational being, for want of culture, is lost to the great ends for which it was created, it is a loss, which no one can measure, either for time or for eternity.

LECTURE ON THE WORKINGMEN'S PARTY.*

MAN is, by nature, an active being. He is made to labor. His whole organization, mental and physical, is that of a hard-working being. Of his mental powers, we have no conception, but as certain capacities of intellectual action. His corporeal faculties are contrived for the same end, with astonishing variety of adaptation. Who can look only at the muscles of the hand, and doubt that man was made to work? Who can be conscious of judgement, memory, and reflection, and doubt that man was made to act? He requires rest, but it is in order to invigorate him for new efforts; to recruit his exhausted powers; and, as if to show him, by the very nature of rest, that it is Means, not End: that form of rest, which is most essential and most grateful, sleep, is attended with the temporary suspension of the conscious and active powers,—an image of death. Nature is so ordered, as both to require and encourage man to work. He is created with wants, which cannot be satisfied without labor; at the same time, that ample provision is made by Providence, to satisfy them with labor. The plant springs up, and grows on the spot, where the seed was cast by accident. It is fed by the moisture, which saturates the earth, or is held suspended in the air; and it brings with it a sufficient covering to protect its delicate internal structure. It toils not, neither doth it spin, for clothing or food. But man is so created, that, let his wants be as simple as they will, he must labor to supply them. If, as is supposed to have been the case, in primitive ages, he lives upon acorns and water, he must draw the water from the spring; and, in many places, he must dig a well in the soil; and he must gather the acorns from beneath

* Delivered before the Charlestown Lyceum, October, 1830.

the oak, and lay up a store of them, for Winter. He must, in most climates, contrive himself some kind of clothing, of barks or skins; must construct some rude shelter; prepare some kind of bed, and keep up a fire. In short, it is well known, that those tribes of our race, which are the least advanced in civilization, and whose wants are the fewest, have to labor the hardest for their support; but, at the same time, it is equally true, that, in the most civilized countries, by far the greatest amount and variety of work are done; so that the improvement, which takes place in the condition of man, consists, not in diminishing the amount of labor performed, but in enabling men to work more, or more efficiently, in the same time. A horde of savages will pass a week in the most laborious kinds of hunting; following the chase, day after day; their women, if in company with them, carrying their tents and their infant children on their backs; and all be worn down, by fatigue and famine; and, in the end, they will, perhaps, kill a buffalo. The same number of civilized men and women would, probably, on an average, have kept more steadily at work, in their various trades and occupations, but with much less exhaustion; and the products of their industry would have been vastly greater; or, what is the same thing, much more work would have been done.

It is true, as man rises in improvement, he would be enabled, by his arts and machinery, to satisfy the primary wants of life, with less labor; and this may be thought to show, at first glance, that man was not intended to be a working being; because, in proportion as he advances in improvement, less work would be required to get a mere livelihood. But here we see a curious provision of Nature. In proportion as our bare natural wants are satisfied, artificial wants, or civilized wants, show themselves. And, in the very highest state of improvement, it requires as constant an exertion to satisfy the new wants, which grow out of the habits and tastes of civilized life, as it requires, in savage life, to satisfy hunger and thirst, and keep from freezing. In

other words, the innate desire of improving our condition keeps us all in a state of want. We cannot be so well off that we do not feel obliged to work, either to insure the continuance of what we now have, or to increase it. The man, whose honest industry just gives him a competence, exerts himself, that he may have something against a rainy day;—and how often do we hear an affectionate father say, he is determined to spare no pains, to work in season and out of season, in order that his children may enjoy advantages denied to himself!

In this way, it is pretty plain, that Man, whether viewed in his primitive and savage state, or in a highly improved condition, is a working being. It is his destiny, the law of his nature, to labor. He is made for it, and he cannot live without it; and the Apostle Paul summed up the matter, with equal correctness and point, when he said, that "if any would not work, neither should he eat."

It is a good test of principles, like these, to bring them to the standard of general approbation or disapprobation. There are, in all countries, too many persons, who, from mistaken ideas of the nature of happiness, or other less reputable causes, pass their time in idleness, or in indolent pleasures. But I believe no state of society ever existed, in which the energy and capacity of labor were not commended and admired, or in which a taste for indolent pleasure was commended or admired, by the intelligent part of the community. When we read the lives of distinguished men, in any department, we find them almost always celebrated for the amount of labor they could perform. Demosthenes, Julius Cæsar, Henry the Fourth of France, Lord Bacon, Sir Isaac Newton, Franklin, Washington, Napoleon,—different as they were in their intellectual and moral qualities,—were all renowned, as hard workers. We read, how many days they could support the fatigues of a march; how early they rose, how late they watched; how many hours they spent in the field, in

the cabinet, in the court, in the study; how many secretaries they kept employed; in short, how hard they worked. But who ever heard of its being said of a man, in commendation, that he could sleep fifteen hours out of the twenty-four, that he could eat six meals a day, and that he was never weary of his easy-chair?

It would be curious to estimate by any safe standard, the amount, in value, of the work of all kinds, performed in a community. This, of course, cannot be done with any great accuracy. The pursuits of men are so various, and the different kinds of labor are so different in the value of their products, that it is scarcely possible to bring the aggregate to any scale of calculation. But we may form a kind of general judgement of the value of the labor of a community, if we look about us. All the improvements, which we behold on the face of the earth; all the buildings, of every kind, in town and country; all the vehicles employed on the land and water; the roads, the canals, the wharfs, the bridges; all the property, of all kinds, which is accumulated throughout the world; and all that is consumed, from day to day and from hour to hour, to support those who live upon it,—all this is the product of labor; and a proportionate share is the product of the labor of each generation. It is plain, that this comprehensive view is one, that would admit of being carried out into an infinity of details, which would furnish the materials rather for a volume than a lecture. But, as it is the taste of the present day to bring every thing down to the standard of figures, I will suggest a calculation, which will enable us to judge of the value of the labor, performed in the community in which we live. Take the population of Massachusetts, for the sake of round numbers, at six hundred thousand souls.* I presume it will not be thought extravagant, to assume that one in six performs, every day, a good day's work, or its equivalent. If we allow nothing for the labor of five out of six, (and this, certainly, will cover the cases of those too

* In 1830.

young and too old to do any work, or who can do only a part of a day's work,) and if we also allow nothing for those whose time is worth more than that of the day-laborer, we may safely assume that the sixth person performs, daily, a vigorous efficient day's work, of body or mind, by hand or with tools, or partly with each, and that this day's work is worth one dollar. This will give us one hundred thousand dollars a day, as the value of the work done in the State of Massachusetts. I have no doubt that it is much more; for this would be very little more than it costs the population to support itself, and allows scarce any thing for accumulation, which is constantly taking place, to a great extent. It will however show, sufficiently, the great amount of the labor done in this State, to take it as coming up, at least, to one hundred thousand dollars per day.

It appears then, first, that man is, by his nature, a working being; and, secondly, that the daily value of his work, estimated merely in money, is immensely great, in any civilized community.

I have made these preliminary remarks, as an introduction to some observations, which I propose to submit, in the remainder of this lecture, on the subject of "a workingmen's party." Towards the organization of such a party, steps have been taken, in various parts of the country. It is probable, that a great diversity of views exists, among those who have occupied themselves upon the subject, in different places. This circumstance, and the novelty of the subject in some of its aspects, and its importance in all, have led me to think, that we might pass an hour, profitably, in its contemplation.

I will observe, in the first place, then, that if, as I have endeavored to show, man is, by nature, a working being, it would follow, that a workingmen's party is founded in the very principles of our nature. Most parties may be considered as artificial, in their very essence; many are local, temporary, and personal. What will all our political parties be, a hundred years

hence? What are they now, in nine tenths of the habitable globe? Mere nonentities. But the workingmen's party, however organized, is one that must subsist in every civilized country, to the end of time. In other words, its first principles are laid in our nature.

The next question, that presents itself, is, What is the general object of a workingmen's party? I do not now mean, what are the immediate steps, which such a party proposes to take; but, what is the main object and end, which it would secure. To this, I suppose I may safely answer, that it is not to carry this or that political election; not to elevate this or that candidate for office, but to promote the prosperity and welfare of workingmen; that is, to secure to every man disposed to work, the greatest freedom, in the choice of his pursuit, the greatest encouragement and aid, in pursuing it, the greatest security, in enjoying its fruits: in other words, to make *work*, in the greatest possible degree, produce *happiness*.

The next inquiry seems to be, Who belong to the workingmen's party? The general answer, here, is obvious,—All who do the work, or are actually willing and desirous to do it, and prevented only by absolute inability, such as sickness or natural infirmity. Let us try the correctness of this view, by seeing whom it would exclude and whom it would include.

This rule, in the first place, would exclude all bad men; that is, those who may work, indeed, but who work for immoral and unlawful ends. This is a very important distinction, and, if practically applied and vigorously enforced, it would make the workingmen's party the purest society that ever existed, since the time of the primitive Christians. It is greatly to be feared, that scarce any of the parties, that divide the community, are sufficiently jealous, on this point; and for the natural reason, that it does not lie in the very nature of those parties. Thus, at the polls, the vote of one man is as good as the vote of another. The vote of the drunkard counts one; the vote of the temperate

man counts *but* one. For this reason, the mere party politician, if he can secure the vote, is apt not to be very inquisitive about the temperance of the voter. He may even prefer the intemperate to the temperate; for, to persuade the temperate man to vote with him, he must give him a good reason; the other will do it for a good drink.

But the true principles of the workingmen's party require, not merely that a man should work, but that he should work in an honest way, and for a lawful object. The man, who makes forged money, probably works harder than the honest engraver, who prepares the notes, for those authorized by law to issue them. But he would be repelled, with scorn, if he presented himself as a member of the workingmen's party. The man, who passes his life, and gains a wretched, precarious subsistence, by midnight trespasses on his neighbor's grounds; by stealing horses from the stall, and wood from the pile; by wrenching bars and bolts, at night, or picking pockets, in a crowd, probably works harder, (taking uncertainty and anxiety into the calculation, and adding, as the usual consequence, a term of years in the compulsory service of the State,) than the average of men pursuing honest industry, even of the most laborious kind: but this hard work would not entitle him to be regarded as a member of the workingmen's party.

If it be inquired, who is to be the judge, what kind of work is not only no title, but an absolute disqualification, for admission to the workingmen's party, on the score of dishonesty, we answer, that, for all practical purposes, this must be left to the law of the land. It is true, that, under cover and within the pale of the law, a man may do things morally dishonest, and such as ought to shut him out of the party. But it is dangerous to institute an inquisition into the motives of individuals; and so long as a man does nothing which the law forbids, in a country where the people make the laws, he ought, if not otherwise disqualified, to be admitted as a member of the party.

The next question regards idlers. If we exclude from the workingmen's party, all dishonest and immoral workers, what are we to say to the case of the idlers? In general terms, the answer to this question is plain; they, too, must be excluded. With what pretence of reason, can an idler ask to be admitted into the association of workingmen, unless he is willing to qualify himself, by going to work; and then, he ceases to be an idler. In fact, the man, who idles away his time, acts against the law of his nature, as a working being. It must be observed, however, that there are few cases, where a man is *merely* an idler. In almost every case, he must be something worse, such as a spendthrift, a gamester, or an intemperate person; a bad son, a bad husband, and a bad father. If there are any persons dependent on him for support; if he idles away the time, which he ought to devote to maintaining his wife, and his children, or his aged parents, he then becomes a robber; a man, that steals the bread out of the mouths of his own family, and rends the clothes off their backs. He is as much more criminal than the common highway robber, who takes the stranger's purse, on the turnpike road, as the ties of duty, to our parents and children, are beyond those of common justice, between man and man. But I suppose it would not require much argument, to show that the person, who leaves to want those whom he ought to support, even if he does not pass his idle hours in any criminal pursuit, has no right to call himself a workingman.

There is a third class of men, whose case deserves consideration, and who are commonly called busybodies. They are as different from real workingmen, as light is from darkness. They cannot be called idlers, for they are never at rest; nor yet workers, for they pursue no honest, creditable employment. So long as they are merely busybodies, and are prompted in their officious, fluttering, unproductive activity, by no bad motive and no malignant passion, they cannot, perhaps, be excluded from the party, though they have really no

claim to be admitted into it. But here, too, the case of a *mere* busybody scarce ever occurs. This character is almost always something more; a dangerous gossip, a tattling mischiefmaker, a propagator, too frequently an inventor, of slander. He repeats, at one fireside, with additions, what he had heard, at another, under the implied obligation of confidence; he often takes the lead in uneasy and inconsiderate movements, safely intrenched behind his neighbor, whom he pushes into trouble. He is very fond of writing anonymous libels, in the newspapers, on men of whom he knows nothing. Such men,—and there are too many of them,—ought to be excluded from the party.

Shutting out, then, all who work dishonestly, and all who do not work at all, and admitting the busybodies with great caution, the workingmen's party comprehends all those, by whom the work of the community is really done; all those, who, by any kind of honest industry, employ the talent which their Creator has given them. All these form one party, one great comprehensive society, and this, by the very law of our nature. Man is not only, as I observed in the beginning, a working being; but he is a being, formed to work in society; and, if the matter be carefully analyzed, it will be found, that civilization,—that is, the bringing men out of a savage into a cultivated state,—consists in multiplying the number of pursuits and occupations; so that the most perfect society is one, where the largest number of persons are prosperously employed, in the greatest variety of ways. In such a society, men help each other, instead of standing in each other's way. The further this division of labor is carried, the more persons must unite, harmoniously, to effect the common ends. The larger the number, on which each depends, the larger the number, to which each is useful.

This union of different kinds of workmen, in one harmonious society, seems to be laid, in the very structure and organization of man. Man is a being, consisting of a body and a soul. These words are *soon* utter-

ed, and they are so *often* uttered, that the mighty truth, which is embraced in them, scarce ever engages our attention. But man is composed of body and soul. What is body? It is material substance; it is clay, dust, ashes. Look at it, as you tread it, unorganized, beneath your feet; contemplate it, when, after having been organized and animated, it returns, by a process of corruption, to its original state. Matter, in its appearance to us, is an unorganized, inanimate, cold, dull, and barren, thing. What it is, in its essence, no one, but the Being who created it, knows. The human mind can conceive of it, but in a negative way. What is the *soul?* Its essence is as little known to us, as that of body; but its qualities are angelic, divine. It is the soul, which thinks, reasons, invents, remembers, hopes, and loves. It is the soul, which lives; for, when the soul departs from the body, all its vital powers cease; and it is dead: and what is the body, then?

Now the fact, to which I wish to call your attention, is, that these two elements, one of which is akin to the poorest dust on which we tread, and the other of which is of the nature of angelic, and even of divine intelligence, are, in every human being, without exception, brought into a most intimate and perfect union. We can conceive, that it might have been different. We believe in the existence of incorporeal beings, of a nature higher than man; and we behold, beneath us, in brutes, plants, and stones, various orders of material nature, rising, one above another, in organization; but none of them (as we suppose) possessing mind. We can imagine a world, so constituted, that all the intellect would have been by itself, pure and disembodied; and all the material substance by itself, unmixed with mind; and acted upon by mind, as inferior beings are supposed to be acted upon by angels. But in constituting our race, it pleased the Creator to bring the two elements into the closest union; to take the body from the dust; the soul from the highest heaven; and mould them into one being.

The consequence is, that the humblest laborer, who works with his hands, possesses within him a soul, endowed with precisely the same faculties as those, which, in Franklin, in Newton, or Shakspeare, have been the light and the wonder of the world. On the other hand, the most gifted and ethereal genius whose mind has fathomed the depths of the heavens, and comprehended the whole circle of truth, is enclosed in a body, subject to the same passions, infirmities, and wants, as the man whose life knows no alternation, but labor and rest, appetite and indulgence.

Did it stop here, it would be merely an astonishing fact, in the constitution of our natures. But it does not stop here. In consequence of the union of the two principles, in the human nature, every act, that a man performs, requires the agency both of body and mind. His mind cannot see, but through the optic eyeglass; nor hear, till the drum of his ear is affected by the vibrations of the air. If he would speak, he puts in action the complex machinery of the vocal organs; if he writes, he employs the muscular system of the hands; nor can he satisfactorily perform the operations of thought, except in a healthy state of the body. A fit of the toothache, proceeding from the irritation of a nerve about as big as a cambric-thread, is enough to drive an understanding, capable of instructing the world, to the verge of insanity. On the other hand, there is no operation of manual labor, so simple, so mechanical, which does not require the exercise of perception, reflection, memory, and judgement; the same intellectual powers, by which the highest truths of science have been discovered and illustrated.

The degree, to which any particular action (or series of actions united into a pursuit) shall exercise the intellectual powers, on the one hand, or the mechanical powers, on the other, of course, depends on the nature of that action. The peasant, whose life, from childhood to the grave, is passed in the field; the New Zealander, who goes to war, when he is hungry, devours his pris-

oners, and leads a life of cannibal debauch, till he has consumed them all, and then goes to war again; the Greenlander, who warms himself with the fragments of wrecks and drift-wood thrown upon the glaciers, and feeds himself with blubber; seem all to lead lives requiring but little intellectual action; and yet, as I have remarked, a careful reflection would show that there is not one, even of them, who does not, every moment of his life, call into exercise, though in an humble degree, all the powers of the mind. In like manner, the philosopher, who shuts himself up in his cell, and leads a contemplative existence among books or instruments of science, seems to have no occasion to employ, in their ordinary exercise, many of the capacities of his nature, for physical action; although he, also, as I have observed, cannot act, or even think, but with the aid of his body.

The same Creator, who made man a mixed being composed of body and soul, having designed him for such a world as that in which we live, has so constituted the world and man who inhabits it, as to afford scope for great variety of occupations, pursuits, and conditions, arising from the tastes, characters, habits, virtues, and even vices, of men and communities. For the same reason, that, though all men are alike composed of body and soul, yet no two men, probably, are exactly the same, in respect to either;—*so* provision has been made by the Author of our being, for an infinity of pursuits and employments, calling out, in degrees as various, the peculiar powers of both principles.

But I have already endeavored to show that there is no pursuit and no action, that does not require the united operation of both; and this, of itself, is a broad, natural foundation, for the union, into one interest, of all in the same community, who are employed in honest work, of any kind; namely, that, however various their occupations, they are all working with the same instruments,—the organs of the body and the powers of the mind.

But we may go a step further, to remark the beautiful process, by which Providence has so interlaced and wrought up together the pursuits, interests, and wants, of our nature, that the philosopher, whose home seems less on earth than among the stars, requires, for the prosecution of his studies, the aid of numerous artificers in various branches of mechanical industry; and, in return, furnishes the most important facilities to the humblest branches of manual labor. Let us take, as a single instance, that of astronomical science. It may be safely said, that the wonderful discoveries of modern astronomy, and the philosophical system depending upon them, could not have existed, but for the *telescope.* The want of the telescope kept astronomical science in its infancy, among the ancients. Although Pythagoras, one of the earliest Greek philosophers, is supposed to have had some conception of the elements of the Copernican system, yet we find no general and practical improvement resulting from it. In fact, it sunk beneath the false theories of subsequent philosophers. It was only from the period of the discoveries made by the telescope, that the science advanced, with sure and rapid progress. Now the astronomer does not make telescopes. I presume it would be impossible for a person, who employed, in the abstract study of astronomical science, time enough to comprehend its profound investigations, to learn and practise the trade of making glass. It is not less true, that those, employed in making the glass could not, in the nature of things, be expected to acquire the scientific knowledge, requisite for carrying on those arduous calculations, applied to bring into a system the discoveries, made by the magnifying power of the telescope. I might extend the same remark to the other materials, of which a telescope consists. It cannot be used, to any purpose of nice observation, without being very carefully mounted, on a frame of strong metal; which demands the united labors of the mathematical-instrument-maker and the brass-founder. Here, then, in

taking but one single step out of the philosopher's observatory, we find he needs an instrument, to be produced by the united labors of the mathematical-instrument-maker, the brass-founder, the glass-polisher, and the maker of glass,—four trades.* He must also have an astronomical clock; and it would be easy to count up half a dozen trades, which, directly or indirectly, are connected in making a clock.

But let us go back to the *objectglass* of the telescope. A glass-factory requires a building and furnaces. The man, who makes the glass, does not make the building. But the stone and brick mason, the carpenter, and the blacksmith, must furnish the greater part of the labor and skill, required to construct the building. When it is built, a large quantity of fuel, wood and wood-coal, or mineral coal, of various kinds, or all together, must be provided; and then, the materials, of which the glass is made, and with which it is colored, some of which are furnished, by commerce, from different and distant regions, and must be brought in ships, across the sea. We cannot take up any one of *these* trades, without immediately finding that it connects itself with numerous others. Take, for instance, the mason, who builds the furnace. He does not make his own bricks, nor burn his own lime; in common cases, the bricks come from one place, the lime from another, the sand from another. The brickmaker does not cut down his own wood. It is carted or brought in boats to his brick-yard. The man, who carts it, does not make his own wagon; nor does the person, who brings it in boats, build his own boat. The man, who makes the wagon, does not make its tire. The blacksmith, who makes the tire, does not smelt the ore; and the forgeman, who smelts the ore, does not build his own furnace, (and there we get back to the point whence we started,) nor dig his own mine. The man, who digs the mine, does not make the pickaxe, with which he digs

* The allusion is here to the simplest form of a telescope. The illustration would be stronger, in the case of a reflector.

it; nor the pump, with which he keeps out the water. The man, who makes the pump, did not discover the principle of atmospheric pressure, which led to pump-making; that was done by a mathematician, at Florence,* experimenting, in his chamber, on a glass tube. And here we come back, again, to our glass; and to an instance of the close connexion of scientific research, with practical art. It is plain, that this enumeration might be pursued, till every art and every science were shown to run into every other. No one can doubt this, who will go over the subject, in his own mind, beginning with any one of the processes of mining and working metals, of ship-building and navigation, and the other branches of art and industry, pursued in civilized communities.

If, then, on the one hand, the astronomer depends, for his telescope, on the ultimate product of so many arts; in return, his observations are the basis of an astronomical system, and of calculations of the movements of the heavenly bodies, which furnish the mariner with his best guide across the ocean. The prudent shipmaster would no more think of sailing for India, without his *Practical Navigator*, than he would without his compass; and this Navigator contains tables, drawn from the highest walks of astronomical science. Every first mate of a vessel, who works a lunar observation, to ascertain the ship's longitude, employs tables, in which the most wonderful discoveries and calculations of Newton, La Place, and Bowditch, are interwoven.

I mention this, as but one of the cases, in which astronomical science promotes the service and convenience of common life; and perhaps, when we consider the degree to which the modern extension of navigation connects itself with industry, in all its branches, this may be thought sufficient. I will only add, that the cheap convenience of an almanac, which enters into the comforts of every fireside in the Country, could not be

* Torricelli.

enjoyed, but for the labors and studies of the profoundest philosophers. Not that great learning or talent is now required, to execute the astronomical calculations of an almanac, although no inconsiderable share of each is needed for this purpose; but because, even to perform these calculations requires the aid of tables, which have been gradually formed on the basis of the profoundest investigations of the long line of philosophers, who have devoted themselves to this branch of science. For, as we observed on the mechanical side of the illustration, it is not one trade, alone, which is required, to furnish the philosopher with his instrument, but a great variety; so, on the other hand, it is not the philosopher, in one department, who creates a science out of nothing. The observing astronomer furnishes materials to the calculating astronomer, and the calculator derives methods from the pure mathematician; and a long succession of each, for ages, must unite their labors, in a great result. Without the geometry of the Greeks and the algebra of the Arabs, the analysis of Newton and Leibnitz might never have been invented.

Examples and illustrations, equally instructive, might be found, in every other branch of industry. The man who will go into a cotton mill, and contemplate it, from the great water-wheel that gives the first movement, (and still more, from the steam-engine, should that be the moving power;) who will observe the parts of the machinery, and the various processes of the fabric, till he reaches the hydraulic press, with which it is made into a bale, and the canal or rail-road, by which it is sent to market, may find every branch of trade, and every department of science, literally crossed, intertwined, interwoven, with every other, like the woof and the warp of the article manufactured. Not a little of the spinning machinery is constructed on principles, drawn from the demonstrations of transcendental mathematics; and the processes of bleaching and dying, now practised, are the results of the most profound researches of modern chemistry. And if this does not satisfy

the inquirer, let him trace the cotton to the plantation, where it grew, in Georgia or Alabama; the indigo to Bengal; the oil to the olive of Italy, or the fishing-grounds of the Pacific ocean; let him consider Whitney's cotton-gin;* Whittemore's carding-machine;* the power-loom;* and the spinning apparatus;* and all the arts, trades, and sciences, directly or indirectly connected with these; and I believe he will soon agree, that one might start from a yard of coarse printed cotton, which costs ten cents, and prove out of it, as out of a text, that every art and science under heaven had been concerned in its fabric.

I ought, here, to allude, also, to some of those pursuits, which require the ability to exercise, at the same time, on the part of the same individual, the faculties, both of the intellectual and physical nature, or which unite very high and low degrees of mental power. I have no doubt that the talent for drawing and painting, possessed by some men to such an admirable degree, depends, partly, on a peculiar organic structure of the eye and of the muscles of the hand, which gives them their more delicate perceptions of color, and their greater skill in delineation. These, no doubt, are possessed by many individuals, who want the intellectual talent, the poetic fire, required for a great painter. On the other hand, I can conceive of a man's possessing the invention and imagination of a painter, without the eye and the hand required to embody, on the canvass, the ideas and images in his mind. When the two unite, they make a Raphael or a Titian; a Wilkie or an Allston. An accomplished statuary, such as Canova or Chantrey, must, on the one hand, possess a soul filled with all grand and lovely images, and have a living conception of ideal beauty; and, on the other hand, he must be a good stonecutter, and able to take a hammer and a chisel in his hand, and go to work on a block of

* For a description of all which, see Bigelow's 'Useful Arts,' constituting Volumes XI. and XII., of the larger series of 'The School Library.'

marble, and chip it down, to the lip of Apollo or the eyelid of Venus. The architect must be practically acquainted with all the materials of building,—wood, brick, mortar, and stone; he must have the courage and skill to plant his moles against the heaving ocean, and to hang his ponderous domes and gigantic arches in the air; while he must have taste, to combine the rough and scattered blocks of the quarry into beautiful and majestic structures; and discern, clearly, in his mind's eye, before a sledge has been lifted, the elevation and proportions of the temple. The poet must know, with a schoolmaster's precision, the weight of every word, and what vowel follows most smoothly on what consonant; at the same time, that his soul must be stored with images, feelings, and thoughts, beyond the power of the boldest and most glowing language to do more than faintly shadow out. The surgeon must, at once, have a mind naturally gifted and diligently trained, to penetrate the dark recesses of organic life; and a nerve and tact, which will enable him to guide his knife among veins and arteries, out of sight, in the living body of an agonizing, shrieking fellow-creature, or to take a lancet in his left hand, and cut into the apple of the eye. The lawyer must be able to reason from the noblest principles of human duty, and the most generous feelings of human nature; he must fully comprehend the mighty maze of the social relations; he must carry about with him, a stock of learning, almost boundless; he must be a sort of god to men and communities, who look up to him, in the hour of the dearest peril of their lives and fortunes; and he must, at the same time, be conversant with a tissue of the most senseless fictions and arbitrary technicalities that ever disgraced a liberal science. The merchant must be able to look, at the same moment, at the markets and exchanges of distant countries and other hemispheres, and combine considerations of the political condition, the natural wants, the tastes and habits, of different parts of the world; and he must be expert at figures, understand

book-keeping, by double entry, and know as well how to take care of a quarter chest of tea, as a cargo of specie. The general-in-chief must be capable of calculating, for a twelvemonth in advance, the result of a contest, in which all the power, resource, and spirit of two great empires enter and struggle, on land and by sea; and he must have an eye that can tell, at a glance, and on the responsibility of his life, how the stone walls, and trenched meadows, the barns, and the woods, and the crossroads, of a neighborhood, will favor or resist the motions of a hundred thousand men, scattered over a space of five miles, in the fury of the advance, the storm of battle, the agony of flight, covered with smoke, dust, and blood.

It was my intention to subject the art of printing to an analysis of the trades, arts, and sciences connected with it; but I have not time to do it full justice, and the bare general idea need not be repeated. I will only say, that, beginning with the invention which bears, in popular tradition, the name of Cadmus,—I mean the invention of alphabetical signs, to express sounds,—and proceeding to the discovery of convenient materials for writing, and the idea of written discourse; thence, to the preparation of manuscript books; and thence, to the fabric, on a large scale, of linen and cotton paper, the invention of movable types and the printing-press, the art of engraving on metal, of stereotype printing, and of the power-press,—we have a series of discoveries, branching out into others, in every department of human pursuit; connecting the highest philosophical principles with the results of mere manual labor, and producing, in the end, that system of diffusing and multiplying the expression of thought, which is perhaps the glory of our human nature. Pliny said, that the Egyptian reed was the support, on which the immortal fame of man rests. He referred to its use, in the manufacture of paper. We may, with greater justice, say as much of the manufacture of paper from rags, and of the printing-press, neither of which was known to Pliny.

But, with all the splendor of modern discoveries and improvements in science and art, I cannot but think, that he, who, in the morning of the world, first conceived the idea of representing sounds by visible signs, took the most important step, in the march of improvement. This sublime conception was struck out in the infancy of mankind. The name of its author, his native country, and the time when he lived, are known only by very uncertain tradition; but, though all the intelligence of ancient and modern times, and in the most improved countries, has been concentred into a focus, burning and blazing upon this one spot, it has never been able to reduce it to any simpler elements, nor to improve, in the slightest degree, upon the original suggestion of Cadmus.

In what I have thus far submitted to you, you will probably have remarked, that I have illustrated, chiefly, the connexion with each other of the various branches of science and art; of the intellectual and physical principles. I have not distinctly shown the connexion of the moral principle, in all its great branches, with both. This subject would well form the matter of a separate essay. But its elementary ideas are few and plain. The arts and sciences, whose connexion we have pointed out, it is plain, require for their cultivation a civilized state of society. They cannot thrive in a community which is not in a state of regular political organization, under an orderly system of government, uniform administration of laws, and a general observance of the dictates of public and social morality. Further, such a community cannot exist, without institutions, of various kinds, for elementary, professional, and moral education; and connected with these, are required the services of a large class of individuals, employed, in various ways, in the business of instruction; from the meritorious schoolmistress, who teaches the little child its A, B, C, to the moralist, who lays down the great principles of social duty, for men and nations, and the minister of Divine truth, who inculcates those sanctions, by which

God himself enforces the laws of reason. There must, also, be a class of men, competent, by their ability, education, and experience, to engage in the duty of making and administering the law; for, in a lawless society, it is impossible that any improvement should be permanent. There must be another class, competent to afford relief to the sick, and thus protect our frail natures from the power of the numerous foes that assail them.

It needs no words to show, that all these pursuits are, in reality, connected with the ordinary work of society, as directly as the mechanical trades, by which it is carried on. For instance, nothing would so seriously impair the prosperity of a community, as an unsound and uncertain administration of justice. This is the last and most fatal symptom of decline, in a state. A community can bear a very considerable degree of political despotism, if justice is duly administered, between man and man. But, where a man has no security that the law will protect him, in the enjoyment of his property; where he cannot promise himself a righteous judgement, in the event of a controversy with his neighbor; where he is not sure, when he lies down at night, that his slumbers are safe; there, he loses the great motives to industry and probity; credit is shaken; enterprise disheartened, and the state declines. The profession, therefore, which is devoted to the administration of justice, renders a service to every citizen of the community, as important as to those whose immediate affairs require the aid of legal counsel.

In a very improved and civilized community, there are also numerous individuals, who, without being employed in any of the common branches of industry or of professional pursuit, connect themselves, nevertheless, with the prosperity and happiness of the public, and fill a useful and honorable place in its service. Take, for instance, a man like Sir Walter Scott,* who,

* Sir Walter Scott died at Abbotsford, (Scotland,) September 21, 1832, in the sixty-second year of his age.

probably, never did a day's work in his life, in the ordinary acceptation of the term, and who has, for some years, retired from the subordinate station he filled, in the profession of the law, as sheriff of the county and clerk of the court. He has written and published at least two hundred volumes, of wide circulation. What a vast amount of the industry of the community is thereby put in motion!—The booksellers, printers, papermakers, pressmakers, typemakers, bookbinders, leatherdressers, inkmakers, and various other artisans required to print, publish, and circulate, the hundreds and thousands of volumes of the different works which he has written, must be almost numberless. I have not the least doubt, that, since the series of his publications began, if all, whose industry, directly or remotely, has been concerned in them, not only in Great Britain, but in America, and on the continent of Europe, could be brought together, and stationed, side by side, as the inhabitants of the same place, they would form a town of very considerable size. Such a person may fairly be ranked as a workingman.

And yet, I take this to be the least of Sir Walter Scott's deserts. I have said nothing of the service rendered to every class, and to every individual in every class, by the writer, who beguiles of their tediousness the dull hours of life; who animates the principle of goodness, within us, by glowing pictures of struggling virtue; who furnishes our young men and women with books, which they may read with interest, and not have their morals poisoned, as they read them. Our habits, our principles, our characters, whatever may be our pursuit in life, depend very much on the nature of our youthful pleasures, and on the mode in which we learn to pass our leisure hours. And he, who, with the blessing of Providence, has been able, by his mental efforts, to present virtue, in her strong attractions, and vice, in her native deformity, to the rising generation, has rendered a service to the public, greater, even, than his, who invented the steam-engine or the mariner's compass.

I have thus endeavored to show, in a plain manner, that there is a close and cordial union between the various pursuits and occupations, which receive the attention of men, in a civilized community:—that they are links of the same chain, every one of which is essential to its strength.

It will follow, as a necessary consequence, as the dictate of reason, and as the law of Nature, that every man in society, whatever his pursuit, who devotes himself to it, with an honest purpose, and in the fulfilment of the social duty which Providence devolves upon him, is entitled to the good fellowship of each and every other member of the community; that all are the parts of one whole, and that, between those parts, as there is but one interest, so there should be but one feeling.

Before I close this lecture, permit me to dwell, for a short time, on the principle, which I have had occasion to advance, that the immortal element of our nature,—the reasoning soul,—is the inheritance of all our race. As it is this, which makes man superior to the beasts that perish; so it is this, which, in its moral and intellectual endowments, is the sole foundation for the only distinctions between man and man, which have any real value. This reflection shows the importance of institutions for education and for the diffusion of knowledge. It was no magic, no miracle, which made Newton, and Franklin, and Fulton. It was the patient, judicious, long-continued cultivation of powers of the understanding, eminent, no doubt, in degree, but not differing, in kind, from those which are possessed by every individual in this assembly.

Let every one, then, reflect, especially every person not yet past the forming period of his life, that he carries about, in his frame, as in a casket, the most glorious thing, which, this side heaven, God has been pleased to create,—an intelligent spirit. To describe its nature, to enumerate its faculties, to set forth what it has done, to estimate what it can do, would require the labor of a life devoted to the history of man. It would be vain,

on this occasion and in these limits, to attempt it. But let any man compare his own nature with that of a plant, of a brute beast, of an idiot, of a savage; and then consider, that it is in mind, alone, and the degree to which he improves it, that he differs, essentially, from any of them.

And let no one think he wants opportunity, encouragement, or means. I would not undervalue these, any or all of them; but, compared with what the man does for himself, they are of little account. Industry, temperance, and perseverance, are worth more than all the patrons that ever lived in all the Augustan ages. It is these, that create patronage and opportunity. The cases of our Franklin and Fulton are too familiar, to bear repetition. Consider that of Sir Humphrey Davy, who died in 1829, and who was, in some departments of science, the first philosopher of the age.* He was born at Penzance, in Cornwall, one of the darkest corners of England; his father was a carver of wooden images for signs, and figure-heads, and chimney-pieces. He himself was apprenticed to an apothecary, and made his first experiments in chemistry with his master's phials and gallipots, aided by an old syringe, which had been given him by the surgeon of a French vessel, wrecked on the Land's End. From the shop of the apothecary, he was transferred to the office of a surgeon; and never appears to have had any other education, than that of a Cornish school, in his boyhood. Such was the beginning of the career of the man, who, at the age of twenty-two, was selected, by our own countryman, Count Rumford, (himself a self-taught benefactor of mankind,) to fill the chair of chemistry at the Royal Institution, in London; such was the origin and education of the man, who discovered the metallic basis of the alkalies and the earths; invented the safety-lamp; and placed himself, in a few years, in the chair of the Royal Society of

* The sketch of Sir Humphrey Davy, which follows, to the end of the lecture, is abridged from the article in the Annual Biography for 1830.

London, and at the head of the chemists of Europe. Sir Humphrey Davy's most brilliant discoveries were effected by his skilful application of the galvanic electricity, a principle, whose existence had been detected, a few years before, by an Italian philosopher, from noticing the contractions of a frog's limb; a fact, which shows how near us, in every direction, the most curious facts lie scattered by Nature. With an apparatus contrived by himself, to collect and condense this powerful agent, Sir Humphrey succeeded in decomposing the earths and the alkalies; and in extracting from common potash, the metal (before unknown) which forms its base; possessing, at seventy degrees of the thermometer, the lustre and general appearance of mercury; at fifty degrees, the appearance of polished silver, and the softness of wax; so light, that it swims in water; and so inflammable, that it takes fire, when thrown on ice.

These are, perhaps, but brilliant novelties; though connected, no doubt, in the great chain of cause and effect, with principles of art and science, conducive to the service of man. But the invention of the safety-lamp, which enables the miner to walk, with safety, through an atmosphere of explosive gas, and has already preserved the lives of hundreds of human beings, is a title to glory and the gratitude of his fellow men, which the most renowned destroyer of his race might envy.

The counsels of such a man, in his retirement and seasons of meditation, are worth listening to. I am sure you will think I bring this lecture to the best conclusion, by repeating a sentence from one of his moral works:—

"I envy," says he, "no quality of the mind or intellect, in others; not genius, power, wit, nor fancy; but, if I could choose what would be most delightful, and, I believe, most useful to me, I should prefer A FIRM RELIGIOUS BELIEF to every other blessing."

ADVANTAGE OF USEFUL KNOWLEDGE TO WORKINGMEN.*

NOTWITHSTANDING the numerous institutions for promoting useful knowledge, in our community, it was still found, that many were excluded from the benefit of them. The number of persons, that can be accommodated in any one hall, is, of course, limited; and it has been thought desirable to make the attempt to provide an additional course of lectures, on the various branches of useful knowledge, for the benefit of those, who have not had it in their power, for this or any other reason, to obtain access to the other institutions, which have set so praiseworthy an example, in this work of public utility. We are assembled, this evening, to make the beginning of this new course of popular instruction.

The plan of this course of lectures was suggested at so late a period, this year, that it may not, perhaps, be possible, the present season, to carry it fully into effect, in such a manner as is wished and designed, in reference to the choice and variety of subjects. It is intended, eventually, that it should extend to the various branches of natural science. It will impart useful information, relative to the Earth, the Air, and the Ocean; the wonders of the heavens; and the mineral treasures beneath the surface of the globe. It may extend to the different branches of natural history, and acquaint you with the boundless variety of the animated creation. The various properties of bodies will form a prominent subject of consideration, as the basis of so many of the arts and trades, and the sources from which so many of the wants of man are supplied. In like manner, the various natural powers, the agency of fire, water, steam,

* An Address delivered as the introduction to the Franklin Lectures, in Boston, November 14, 1831.

and weight, which, in their various combinations, produce the wonders of improved machinery, by which industry is facilitated, and the most important fabrics are furnished, cheaply and abundantly, will not be overlooked. It may be supposed, that a due share of attention will be paid to the geographical survey of the globe, to the history of our own race, the fortunes of the several nations, into which mankind have been divided, and the characters of great and good men, who, long after they have departed from life, survive in the gratitude and admiration of their fellow-men. A general and intelligible view of the constitution and laws of the country, in which we have the happiness to live, tending, as it will, to enlighten us in the discharge of our duties, as citizens, will no doubt be presented to you, by some, who will take a part in these lectures. Nor will they, I venture to hope, be brought to a close, without having occasionally directed your thoughts to those views of our nature, which belong to man, as a rational and immortal being, and to those duties and relations which appertain to us, as accountable agents.

The general plan of these lectures extends to these and all other branches of sound and useful knowledge; to be treated in such order, as circumstances may suggest; and with such variety and selection of subjects, and fulness of detail, as the convenience of the lecturers and the advantage of the audience may dictate. They have been called the *Franklin Lectures*, in honor of our distinguished townsman, the immortal Franklin,* the son of a tallow-chandler, and the apprentice to a printer, in this town; a man, who passed all his early years, and a very considerable portion of his life, in manual industry; and who was chiefly distinguished by his zealous and successful efforts for the promotion of useful knowledge. His name has given lustre to the highest walks of science, and adorns one of the proudest pages of the history of our Country and the world.

* For a life of Franklin, see one of the volumes of 'THE SCHOOL LIBRARY.'

But we have thought it was still more a name of hope and promise, for an institution like this, which aims to promote useful knowledge (the great study of his life) among that class of our fellow-citizens, from which it was ever his pride himself to have sprung.

It would seem, at the commencement of a course of public instruction of this kind, a pertinent inquiry, *Why* should we endeavor to cultivate and inform our minds, by the pursuit of knowledge?

This question, to which the good sense of every individual furnishes, without meditation, some general reply, demands a full and careful answer. I shall endeavor, in this address, to state some of the reasons, which go to furnish such an answer.

All men should seek to cultivate and inform their minds, by the pursuit of useful knowledge, as the great means of happiness and usefulness.

All other things being equal, the pursuit and attainment of knowledge are, at the time, the surest source of happiness. I do not mean, that knowledge will make up for the want of the necessaries and comforts of life: it will not relieve pain, heal sickness, nor bring back lost friends. But if knowledge will not do this, ignorance will do it still less. And it may even be affirmed, and all, who have made the experiment, themselves, will testify to the truth of the remark, that nothing tends more to soothe the wounded feelings, to steal away the mind from its troubles, and to fill up the weariness of a sick chamber and a sick bed, than, for instance, some intelligible, entertaining, good book, read or listened to.

But knowledge is still more important, as the means of being useful; and the best part of the happiness, which it procures us, is of that purer and higher kind, which flows from the consciousness that, in some way or other, by example or positive service, we have done good to our fellow-men. One of the greatest modern philosophers said that *knowledge is power;* but it is power, because it is usefulness. It gives men influence

over their fellow-men, because it enables its possessors to instruct, to counsel, to direct, to please, and to serve, their fellow-men. Nothing of this can be done, without the cultivation and improvement of the mind.

It is the mind, which enables us to be useful, even with our bodily powers. What is strength, without knowledge to apply it? What are the curiously-organized hands, without skill to direct their motion? The idiot has all the bodily organs and senses of the most intelligent and useful citizen.

It is through mind, that man has obtained the mastery of Nature and all its elements, and subjected the inferior races of animals to himself. Take an uninformed savage, a brutalized Hottentot; in short, any human being, in whom the divine spark of reason has never been kindled to a flame; and place him on the seashore, in a furious storm, when the waves are rolling in, as if the fountains of the deep were broken up. Did you not know, from certain experience, that man, by the cultivation of his mind, and the application of the useful arts, had actually constructed vessels, in which he floats securely, on the top of these angry waves, you would not think it possible, that a being, like that we have mentioned, could for one moment resist their fury. It is related of some of the North-American Indians, a race of men who are trained, from their infancy, to the total suppression of their emotions of every kind, and who endure the most excruciating torments, at the stake, without signs of suffering, that, when they witnessed, for the first time, on the western waters of the United States, the spectacle of a steamboat under way, moving along, without sails or oars, and spouting fire and smoke, even they could not refrain from exclamations of wonder. Hold out a handful of wheat or Indian corn to a person wholly uninformed of their nature, and ignorant of the mode of cultivating them, and tell him, that, by scattering these dry kernels abroad, and burying them in the cold, damp earth, you can cause a harvest to spring up, sufficient for a Win-

ter's supply of food, and he will think you are mocking him, by vain and extravagant tales. But it is not the less true, that, in these instances as in all others, it is the mind of man, possessed of the necessary knowledge and skill, that brings into useful operation, for the supply of human want, and the support and comfort of human life, the properties and treasures of the natural world, the aid of inferior animals, and even our own physical powers.

When, therefore, we improve our minds, by the acquisition of useful knowledge, we appropriate to ourselves, and extend to others to whom we may impart our knowledge, a share of this natural control over all other things, which Providence has granted to his rational children.

It cannot, it is true, be expected to fall to the lot of many individuals, by extending their knowledge of the properties and laws of the natural world, to strike out new discoveries and inventions, of the highest importance. It is as much as most men can hope, and promise themselves, to be enabled to share the comfort and benefit of the unnumbered improvements, which, from the beginning of time, have been made by others; and which, taken together, make up the civilization of man. Still, there are examples, in almost every age, of men, who, by the happy effects of their individual pursuit of useful knowledge, have conferred great benefits upon all mankind. I presume, that, in consequence of three inventions,—that of the machinery for spinning cotton, that of the power-loom, and that of the mode of separating the seed of the cotton plant from the fibrous portion to which it adheres,—the expense of necessary clothing is diminished, two thirds, for every man in Europe and America.* In other words, the useful knowledge, imparted to the world by the authors of these inventions, has enabled every man, woman, and child, in the civilized world, as far as clothing is con-

* See notes on pages 77, 89, 144.

cerned, to live at one third of the former cost. We are struck with astonishment, when we behold these curious machines; when we look, for instance, at a watch, and see a few brass wheels, put in motion by a small piece of elastic steel, counting out the hours and minutes, by night and by day, and even enabling the navigator to tell how many miles he has sailed, upon the waste ocean, where there are no marks or monuments, by which he can measure his progress. But how much more wonderful is the mind of man, which, in the silence of the closet, turned in upon itself, and deeply meditating upon the properties and laws of matter, has contrived this wonderful machine!

The invention of the power-loom, by Mr. Cartwright, beautifully illustrates the strength and reach of the intellectual principle, resolutely applied to a given object. In consequence of Arkwright's machinery for spinning, it was soon found, that there would be a difficulty in weaving all the yarn that could be spun. It was remarked, in a company where Mr. Cartwright was present, in 1784, that, in order to remedy this evil, Mr. Arkwright must exercise his ingenuity, and invent a weaving mill, in order to work up the yarn which should be spun in his spinning mills. The subject was discussed; and it was pronounced by the gentlemen present, who were manufacturers from Manchester, in England, to be impossible. Mr. Cartwright thought otherwise: he said, there had been lately exhibited, in London, a machine for playing chess; and he felt quite sure, that it could not be more difficult to construct a machine to weave cloth, than a machine which could go through all the movements of such a complicated game. Mr. Cartwright was a clergyman, forty years old, and had never given his attention to the subject of machinery. This subject, however, was so strongly on his mind, that, sometime afterwards, he resolved to make the attempt, to invent a weaving machine. He had not, at that time, it appears, ever seen even a common loom. But, reasoning upon the nature of the

processes, necessary to be gone through, to cross the threads in such a way as to make a piece of cloth, he hit upon the plan of a loom, and, with the assistance of a carpenter and blacksmith, he made one. It was a very rude machine. "The warp," says Mr. Cartwright, "was laid perpendicularly; the reed fell with a force of at least half a hundred weight, and the springs, which threw the shuttle, were strong enough to throw a Congreve rocket." Besides this, it required the strength of two powerful men to work it, and that at a slow rate, and for a short time. But the principle was there. Mr. Cartwright now went and examined the looms of common form, and soon succeeded in constructing one, very nearly resembling the power-looms which are now in use. In the account of this interesting invention, which I am quoting,* it is said, that "Dr. Cartwright's children still remember often seeing their father, about this time, walking to and fro, apparently in deep meditation, and occasionally throwing his arms from side to side; on which they used to be told, that he was thinking of weaving and throwing the shuttle." Some time after he had brought his first loom to perfection, a manufacturer, who had called upon him to see it at work, after expressing his admiration at the ingenuity displayed in it, remarked, that, wonderful as Mr. Cartwright's mechanical skill was, there was one thing that would effectually baffle him, and that was, the weaving of patterns in checks, or, in other words, the combining, in the same web, of a pattern or fancy figure with the crossing colors that make the check. Mr. Cartwright made no reply to this observation, at the time; but, some weeks after, on receiving a second visit, from the same person, he had the pleasure of showing him a piece of muslin, of the description mentioned, beautifully woven by machinery. The man was so much astonished, that he declared,

* 'Pursuit of Knowledge under Difficulties,' Vol. II., page 285, in the larger series of 'THE SCHOOL LIBRARY.'

that something more than human agency must have been concerned in the fabric.*

The wonderful results of the sagacity and perseverance of Fulton, in carrying into effect the conceptions of his mind, on the subject of steam navigation, still more nobly illustrate the creative power of the human intellect; but it is a matter too familiar, to need comment.

It must not, however, be supposed, from the instances I have chosen to show the amount of good which may be done, by the exercise of the mental powers, that it is confined to the material comforts of life; to steam-boats, looms, or machinery for spinning. Far from it. The true and most peculiar province of its efficacy is, the moral condition. Think of the inestimable good, conferred on all succeeding generations, by the early settlers of America, who first established the system of public schools, where instruction should be furnished, *gratis*, to all the children in the community. No such thing was before known, in the world. There were schools and colleges, supported by funds, which had been bequeathed by charitable individuals; and, in consequence, most of the common schools of this kind, in Europe, were regarded as establishments for the poor. So deep-rooted is this idea, that, when I have been applied to, for information, as to our public schools, from those parts of the United States where no such system exists, I have frequently found it hard to obtain credit, when I have declared, that there was nothing disreputable, in the public opinion here, in sending children to schools supported at the public charge. The idea of free schools for the whole people, when it first crossed the minds of our forefathers, was entirely original; but how much of the prosperity and happiness of their children and posterity has flowed from this living spring of public intelligence! The same may be said of Sunday

* The power-loom was applied to the weaving of cotton, in the United States, in 1813, by Messrs. F. C. Lowell and Patrick T. Jackson, aided by Mr. Paul Moody, without an acquaintance with the machinery applied to this purpose, in England, except by general description.

schools, which have proved a blessing of inestimable value, in Europe and America, and particularly to thousands who are deprived of the advantages of other institutions. It is probable, that instruction is now given, in the Sunday schools, to more than a million and a half of pupils, by more than one hundred and fifty thousand teachers. This plan was the happy suggestion of an humble individual,—a printer,—who contemplated, at first, nothing but the education of the destitute and friendless children in his immediate neighborhood. After laboring in this noble field of usefulness for twenty years, and among the class of population most exposed to the temptations to crime, he had the satisfaction of being able to say, that, out of three thousand scholars, he had heard of but one, who had been sent to jail, as a criminal.* Who would not be ashamed to compare the pure and happy renown of the man, that had extended, by the suggestion of this simple but before untried plan of education, the blessings of instruc-

* See a very interesting address, at the celebration of the Sunday-school jubilee, or the fiftieth year from the institution of Sunday schools, by Robert Raikes : delivered at Charleston, South Carolina, September 14, 1831, by Thomas Smith Grimke. I find, however, the following statement, in a public print, of the accuracy of which I have no means of judging :

"The credit of originating these institutions has usually been given to Mr. Raikes, a newspaper proprietor, of Gloucester, who died some years ago. It now appears, however, from statements and documents of unquestionable authenticity, that the plan of the first school of this description, which was established in Gloucester, in 1780, originated with the Rev. Thomas Stock, head master of the cathedral school of that city. Mr. Stock, who was in narrow circumstances, communicated the details of his plan to Mr. Raikes, when the latter assisted him with his purse ; and, having taken a very active and zealous part, in promoting the establishment of Sunday schools, he ultimately obtained all the merit of being their founder. Mr. Raikes, who is undoubtedly entitled to much credit for his benevolent exertions in the cause of education, lived to see two hundred and fifty thousand children enrolled in these schools. The number now enjoying the benefit of instruction on the Sabbath, in England, is one million two hundred and fifty thousand. At Birmingham, the system has been carried to a much greater extent, than in any other town in England, nearly thirteen thousand Sunday-school pupils having been mustered there, on the occasion of the late jubilee."

tion to a million and a half of his fellow-creatures, with the false and unmerited glory, which has been awarded to conquerors, whose wars have hurried their millions of victims to cruel and untimely death!

This topic might be illustrated, perhaps, still more powerfully, by depicting the evils which flow from ignorance. These are deplorable enough, in the case of the individual; although, if he live surrounded by an intelligent community, the disastrous consequences are limited. But the general ignorance of large numbers and entire classes of men, acting under the unchastened stimulus of the passions, and excited by the various causes of discontent, which occur in the progress of human affairs, is often productive of scenes, which make humanity shudder. I know not, that I could produce a more pertinent illustration of this truth, than may be found in the following extract from a foreign journal. It relates to the outrages, committed by the peasantry, in a part of Hungary, in consequence of the ravages of the cholera, in that region.

"The suspicion, that the cholera was caused by poisoning the wells, was universal among the peasantry of the counties of Zips and Zemplin, and every one was fully convinced of its truth. The first commotion arose in Klucknow, where, it is said, some peasants died, in consequence of taking the preservatives; whether by an immoderate use of medicine, or whether they thought they were to take chlorate of lime internally, is not known. This story, with a sudden and violent breaking out of cholera, at Klucknow, led the peasants to a notion of the poisoning of the wells, which spread like lightning. In the sequel, upon the attack of the estate of Count Czaki, a servant of the chief bailiff was on the point of being murdered, when, to save his life, he offered to disclose something important. He said, that he received from his master two pounds of poisonous powder, with orders to throw it into the wells, and, with an axe over his head, took oath publicly, in the church, to the truth of his statement. These circumstances, and

the fact, that the peasants, when they forcibly entered the houses of the land-owners, every where found chlorate of lime, which they took for the poisonous powder, confirmed their suspicions, and drove the people to madness. In this state of excitement, they committed the most appalling excesses. Thus, for instance, when a detachment of thirty soldiers, headed by an ensign, attempted to restore order in Klucknow, the peasants, who were ten times their number, fell upon them; the soldiers were released, but the ensign was bound, tortured with scissors and knives, then beheaded, and his head fixed on a pike, as a trophy. A civil officer, in company with the military, was drowned, his carriage broken, and chlorate of lime being found in the carriage, one of the inmates was compelled to eat it, till he vomited blood, which again confirmed the notion of poison. On the attack of the house of the Lord, at Klucknow, the Countess saved her life by piteous entreaties; but the chief bailiff, in whose house chlorate of lime was unhappily found, was killed, together with his son, a little daughter, a clerk, a maid, and two students, who boarded with him. So the bands went from village to village; wherever a nobleman or a physician was found, death was his lot; and, in a short time, it was known, that the high constable of the county of Zemplin, several counts, nobles, and parish priests, had been murdered. A clergyman was hanged, because he refused to take an oath that he had thrown poison into the well; the eyes of a countess were put out, and innocent children cut to pieces. Count Czaki, having first ascertained that his family was safe, fled from his estate, at the risk of his life, but was stopped at Kirchtrauf, pelted with stones, and wounded all over, torn from his horse, and only saved by a worthy merchant, who fell on him, crying, 'Now I have got the rascal.' He drew the Count into a neighboring convent, where his wounds were dressed, and a refuge afforded him. His secretary was struck from his horse with an axe, but saved, in a similar manner, and in the

evening conveyed with his master to Leutschau. But enough of these horrible scenes."

It is by no means my purpose, on this occasion, to attempt even a sketch of what the judicious exercise of the intelligent principle has enabled men to do, for the improvement of their fellow-men. Enough, I venture to hope, has been said, to put all, who favor me with their attention, upon the reflection, that it is only by its improvement, that it is possible for a man to render himself useful to man; and, consequently, that it is in this way, alone, that he can taste the highest and purest pleasure which our natures can enjoy, that which proceeds from the consciousness of having been useful to others.

But it is time, that I should make a few remarks, on another subject, which would seem appropriately to belong to this occasion.

An idea, I fear, prevails, that truths, such as I have now attempted to illustrate, are obvious enough, in themselves, but that they apply only to men of literary education, to professional characters, and persons of fortune and leisure; and that it is out of the power of the other classes of society, and those who pass most of their time in manual labor and mechanical industry, to engage in the pursuit of knowledge, with any hope of being useful to themselves and others.

This, I believe to be a great error. I trust we may regard the meeting of this numerous audience, as a satisfactory proof that you consider it an error; and that you are persuaded that it is in your power, to enjoy the pleasures and the benefits which flow from the pursuit of useful knowledge.

What is it, that we wish to improve? The mind. Is this a thing monopolized by any class of society? God forbid: it is the heritage with which he has endowed all the children of the great family of man. Is it a treasure belonging to the wealthy? It is talent bestowed, alike, on rich and poor; high and low. But this is not all; mind is, in all men, and in every man,

the same active, living, and creative, principle; it is the man himself. One of the renowned philosophers of heathen antiquity beautifully said, of the intellectual faculties, I call them not *mine*, but *me*. It is these, which make the man; which are the man. I do not say, that opportunities, that wealth, leisure, and great advantages for education, are nothing; but I do say, they are much less, than is commonly supposed; I do say, as a general rule, that the amount of useful knowledge which men acquire, and the good they do with it, are, by no means, in direct proportion to the degrees to which they have enjoyed what are commonly called the great advantages of life. Wisdom does sometimes, but not most commonly, feed her children with a silver spoon. I believe it is perfectly correct, to say that a small proportion, only, of those who have been most distinguished for the improvement of their minds, have enjoyed the best advantages for education. I do not mean to detract, in the least, from the advantages of the various seminaries for learning, which public and private liberality has founded, in our Country. They serve as places, where a large number of persons are prepared for their employment, in the various occupations which the public service requires. But, I repeat it, of the great benefactors of our race; the men, who, by wonderful inventions, remarkable discoveries, and extraordinary improvements, have conferred the most eminent service on their fellow-men, and gained the highest names in history; by far the greater part have been men of humble origin, narrow fortunes, small advantages, and self-taught.

And this springs from the nature of the mind of man, which is not, like a vessel, to be filled up from without; into which, you may pour a little, or pour much; and then measure, as with a gauge, the degrees of knowledge imparted. The knowledge, that *can* be *so* imparted, is the least valuable kind of knowledge; and the man, who has nothing but this, may be very learned, but cannot be very wise. We do not invite you to

these lectures, as if their object would be attained, when you have heard the weekly address. It is to kindle the understanding to the consciousness of its own powers; to make it feel within itself, that it is a living, spiritual thing; to feed it, in order that it may itself begin to act and operate, to compare, contrive, invent, improve, and perfect. This is our object;—an object, as much within the reach of every man who hears me, as if he had taken a degree in the best college in Christendom.

In this great respect, the most important that touches human condition, we are all equal. It is not more true, that all men possess the same natural senses and organs, than that their minds are endowed with the same capacities for improvement, though not, perhaps, all in the same degree. The condition in which they are placed is certainly not a matter of entire indifference. The child of a savage, born in the bosom of a barbarous tribe, is, of course, shut out from all chance of sharing the improvements of civilized communities. So, in a community, like our own, an infant, condemned by adverse circumstances to a life of common street beggary, must be considered as wholly out of the reach of all improving influences. But Shakspeare, whose productions have been the wonder and delight of all who speak the English language, for two hundred years, was a runaway youth, the son of a woolcomber, who obtained his living in London, by holding horses at the door of the theatre, for those who went to the play; and Sir Richard Arkwright,* who invented the machinery for spinning cotton, of which I have already spoken, was the youngest of thirteen children of a poor peasant, and, till he was thirty years of age, followed the business of a travelling barber.

As men bring into the world with them an equal intellectual endowment; that is, minds equally susceptible of improvement; so, in a community, like that in which we have the happiness to live, the means of im-

* See note on page 77.

provement are much more equally enjoyed, than might, at first, be supposed. Whoever has learned to read, possesses the keys of knowledge; and can, whenever he pleases, not only unlock the portals of her temple, but penetrate to the inmost halls and most secret cabinets. A few dollars, the surplus of the earnings of the humblest industry, are sufficient to purchase the use of books, which contain the elements of the whole circle of useful knowledge.

It may be thought that a considerable portion of the community *want time* to attend to the cultivation of their minds. But it is only necessary to make the experiment, to find *two things*; one, how much useful knowledge can be acquired in a very little time; and the other, how much time can be spared, by good management, out of the busiest day. Generally speaking, our duties leave us time enough, if our passions would but spare us; our labors are much less urgent, in their calls upon us, than our indolence and our pleasures. There are very few pursuits in life, whose duties are so incessant, that they do not leave a little time, every day, to a man whose temperate and regular habits allow him the comfort of a clear head and a cheerful temper, in the intervals of occupation; and then there is one day in seven, which is redeemed to us, by our blessed religion, from the calls of life, and affords us all time enough, for the improvement of our rational and immortal natures.

It is a prevalent mistake, to suppose that any class of men have much time to spend, or do spend much time, in mere contemplation and study. A small number of literary men may do this; but the great majority of professional men,—lawyers, doctors, and ministers, men in public station, rich capitalists, merchants,—men, in short, who are supposed to possess eminent advantages, and ample leisure to cultivate their minds, are very much occupied with the duties of life, and constantly and actively employed in pursuits, very uncongenial to the cultivation of the mind and the attainment

of useful knowledge. Take the case of an eminent lawyer, in full practice. He passes his days in his office, giving advice to clients, often about the most uninteresting and paltry details of private business, or in arguing over the same kind of business, in court; and, when it comes night, and he gets home, tired and harassed, instead of sitting down to rest or to read, he has to study out another perplexed cause, for the next day; or go before referees; or attend a political meeting, and make a speech; while every moment, which can be regarded, in any degree, as leisure time, is consumed by a burdensome correspondence. Besides this, he has his family to take care of. It is plain, that he has no more leisure for the free and improving cultivation of his mind, independent of his immediate profession, than if he had been employed, the same number of hours, in mechanical or manual labor. One of the most common complaints of professional men, in all the professions, is, that *they* have no time to read; and I have no doubt there are many such, of very respectable standing, who do not, in any branch of knowledge, not connected with their immediate professions, read the amount of an octavo volume in the course of a season.

There is, also, a time of leisure, which Providence, in this climate, has secured to almost every man, who has any thing which can be called a home; I mean, *our long Winter evenings.* This season seems provided, as if expressly, for the purpose of furnishing those who labor, with ample opportunity for the improvement of their minds. The severity of the weather, and the shortness of the days, necessarily limit the portion of time which is devoted to industry, out of doors; and there is little to tempt us abroad, in search of amusement. Every thing seems to invite us to employ an hour or two, of this calm and quiet season, in the acquisition of useful knowledge and the cultivation of the mind. The noise of life is hushed; the pavement ceases to resound with the din of laden wheels, and the tread of busy men; the glaring sun has gone down, and the

moon and the stars are left to watch, in the heavens, over the slumbers of the peaceful creation. The mind of man should keep its vigils with them; and, while his body is reposing from the labors of the day, and his feelings are at rest from its excitements, he should seek, in some amusing and instructive page, a substantial food for the generous appetite for knowledge.

If we needed any encouragement, to make these efforts to improve our minds, we might find it, in every page of our Country's history. Nowhere do we meet with examples, more numerous and more brilliant, of men who have risen above poverty, and obscurity, and every disadvantage, to usefulness and an honorable name. Our whole vast continent was added to the geography of the world, by the persevering efforts of an humble mariner, the great Columbus, who, by the steady pursuit of the enlightened conception which he had formed, of the figure of the earth, before any navigator had acted upon the belief that it was round, discovered the American continent. He was the son of a Genoese pilot; a pilot and seaman, himself; and, at one period of his melancholy career, was reduced to beg his bread, at the doors of the convents, in Spain. But he carried within himself, and beneath an humble exterior, a spirit, for which there was not room in Spain, in Europe, nor in the then known world; and which led him on to a height of usefulness and fame, beyond that of all the monarchs that ever reigned.

The story of our Franklin cannot be repeated too often;—the poor Boston boy; the son of an humble tradesman; brought up a mechanic, himself; a stranger at colleges, till they showered their degrees upon him; who rendered his Country the most important services, in establishing her Independence; enlarged the bounds of philosophy, by a new department of science; and lived to be pronounced, by Lord Chatham, in the British House of Peers, an honor to Europe and the age in which he lived.

Why should I speak of Greene, who left his black-

smith's furnace, to command an army in the Revolutionary War; the chosen friend of Washington, and, next to him, perhaps, the military leader, who stood highest in the confidence of his Country?

West, the famous painter, was the son of a Quaker, in Pennsylvania; he was too poor, at the beginning of his career, to purchase canvass and colors; and he rose, eventually, to be the first artist in Europe, and President of the Royal Academy, at London. Count Rumford was the son of a farmer, at Woburn: he never had the advantage of a college education, but used to walk down to Cambridge, to hear the lectures on natural philosophy. He became one of the most eminent philosophers in Europe; founded the Royal Institution, in London, and had the merit of bringing forward Sir Humphrey Davy, as the lecturer on chemistry, in that establishment. Robert Fulton was a portrait painter, in Pennsylvania, without friends or fortune. By his successful labors, in perfecting steam-navigation, he has made himself one of the greatest benefactors of man. Whitney, the son of a Massachusetts farmer, was a machinist. His cotton-gin, according to Judge Johnson, of the Supreme Court of the United States, has trebled the value of all the cotton lands at the South, and has had an incalculable influence on the agricultural and mechanical industry of the world. Whittemore, of West Cambridge, the person who invented the machinery for the manufacture of cards, possessed no other means of improvement, than those which are within the reach of every temperate and industrious man. Several, in this audience, were probably acquainted with the modest and sterling merit of the late Paul Moody. To the efforts of his self-taught mind, the early prosperity of the great manufacturing establishments, at Waltham and Lowell, is, in no small degree, owing. I believe I may say, with truth, that not one of these individuals enjoyed, at the outset, opportunities for acquiring useful knowledge, superior to those in the reach of every one who hears me.

These are all departed; but we have, living among us, illustrious instances of men, who, without early advantages, but by the resolute improvement of the few opportunities thrown in their way, have rendered themselves, in like manner, useful to their fellow-men; the objects of admiration, to those who witness their attainments, and of gratitude, to those who reap the fruit of their labors.

On a late visit to New Haven, I saw exhibited a most beautiful work of art; two figures, in marble, representing the affecting scene of the meeting of Jephthah and his daughter, as described in the Bible. The daughter, a lovely young woman, is represented as going forth, with the timbrel in her hand, to meet her father, as he returns in triumph, from the wars. Her father had rashly vowed to sacrifice to the Lord the first living thing which he should meet, on his return; and, as his daughter runs forth to embrace him, he rends his garments, and turns his head in agony, at the thought of his vow. The young maiden pauses, astonished and troubled at the strange reception. This pathetic scene is beautifully represented, in two marble figures, of most exquisite taste, finished in a style, which would do credit to a master in the art. They are the work of a self-taught artist, Mr. Augur, of New Haven, who began life, I have been informed, as a retailer of liquors. This business he was obliged to give up, under a heavy load of debt. He then turned his attention to carving in wood; and, by his skill and thrift, in that pursuit, succeeded in paying off the debts of his former establishment, to the amount of several thousand dollars. Thus honorably placed at liberty, he has since devoted himself to the profession of a sculptor, and, without education, without funds, without instruction, he has risen, at once, to extraordinary proficiency in this difficult and beautiful art, and bids fair to enrol his name among the distinguished sculptors of the day.*

I scarce know if I may venture to adduce an instance,

* See New-England Magazine, Vol. I., page 413.

nearer home, of the most praiseworthy and successful cultivation of useful knowledge, on the part of an individual, without education, busily employed in mechanical industry. I have the pleasure to be acquainted, in one of the neighboring towns, with a person, who was brought up to the trade of a leatherdresser, and has all his life worked, and still works, at this business.* He has devoted his leisure hours, and a portion of his honorable earnings, to the cultivation of useful and elegant learning. Under the same roof, which covers his store and workshop, he has the most excellent library of English books, for its size, with which I am acquainted. The books have been selected with a good judgement, which would do credit to the most accomplished scholar, and have been imported from England, by himself. What is more important than having the books, their proprietor is well acquainted with their contents. Among them, are several volumes of the most costly and magnificent engravings. Connected with his library, is an exceedingly interesting series of paintings, in water-colors, which a fortunate accident placed in his possession, and several valuable pictures, purchased by himself. The whole forms a treasure of taste and knowledge, not surpassed, if equalled, by any thing of its kind in the Country.

I should leave this part of my address, too unjustly defective, did I not add, that we possess, within our own city, an instance of merit, as eminent as it is unobtrusive, in the person of one, who has raised himself, from the humblest walks of life, to the highest scientific reputation. Little, perhaps, is it known to the intelligent mariner, who resorts to his Practical Navigator, for the calculations with which he finds his longitude in mid-ocean, that many of them are the original work of one who started at the same low point in life with himself. Still less is it known to him, that this was but the commencement of a series of scientific produc-

* Mr. Thomas Dowse, of Cambridgeport.

tions, which have placed their author upon an equality with the most distinguished philosophers of Europe, and inscribed the name of Bowditch with those of Newton and La Place, upon that list of great minds, to which scarcely one is added in a century.*

But why should I dwell on particular instances? Our whole Country is a great and speaking illustration of what may be done by native force of mind, uneducated, without advantages, but starting up, under strong excitement, into new and successful action. The statesmen, who conducted the Revolution to its honorable issue, were called, without experience, to the head of affairs. The generals, who commanded our armies, were most of them taken, like Cincinnatus, from the plough; and the forces, which they led, were gathered from the firesides of an orderly and peaceful population. They were arrayed against all the experience, talent, and resource, of the elder world; and came off victorious. They have handed down to us a country, a constitution, and a national career, affording boundless scope to every citizen, and calling every individual to do, for himself, what our fathers unitedly did for us all. What man can start in life, with so few advantages, as those with which our Country started, in the race of independence? Over whose private prospects, can there hang a cloud, as dark as that which brooded over the cause of America? Who can have less to encourage, and more to appal and dishearten, him, than the sages and chieftains of the Revolution? Let us, then, endeavor to follow in their steps; and each, according to his means and ability, try to imitate their glorious example; despising difficulties, grasping at opportunities, and steadily pursuing some honest and manly aim. We shall soon find that the obstacles, which oppose our progress, sink into the dust, before a firm and resolute step; and that the pleasures and benefits of knowledge are within the reach of all who seek it.

* Nathaniel Bowditch, LL. D., died in Boston, March 16, 1838, aged sixty-five.

There are a few considerations, which I beg leave, more particularly, to address to the younger part of the audience, and which seem to call on them, peculiarly, with a loud voice, to exert themselves, according to their opportunities, to store their minds with useful knowledge.

The world is advanced to a high point of attainment in science and art. The progress of invention and improvement has been, especially of late years, prodigiously rapid; and now, whether we regard the science of Nature or of art, of mind or of morals, of contemplation or of practice, it must be confessed that we live in a wonderfully-improved period.

Where is all this knowledge? where does it dwell? In the minds of the present generation of men. It is, indeed, recorded in books, or embodied in the various works and structures of man. But these are only the manifestations of knowledge. The books are nothing, till they are read and understood; and then, they are only a sort of shorthand, an outline, which the mind fills up. The thing itself, the science, the art, the skill, are in the minds of living men,—of that generation which is now upon the stage.

That generation will die and pass away. This hour, which we have spent together, has been the last hour to many thousands throughout the world. About three thousand of our race have died, since I began my lecture. Among them, of course, is a fair proportion of all the learned and the wise, in all the nations. In thirty years, all, now in active life, will be gone, or retired from the scene, and a new generation will have succeeded.

This mighty process does not take place, at once, either throughout the world, or in any part of it; but it is constantly going on,—silently, effectually, inevitably; and all the knowledge, art, and refinement, now in existence, must be either acquired by those who are coming on the stage, or perish, with those who are going off, and be lost forever. There is no way, by which

knowledge can be handed down, but by being learned over again; and of all the science, art, and skill, in the world, so much only will survive, when those who possess it are gone, as shall be acquired by the succeeding generation.

The rising generation is now called upon to take up this mighty weight; to carry it along, a little way; and then hand it over, in turn, to their successors.

The minds, which, in their maturity, are to be the depositories of all this knowledge, are coming into existence, every day and every hour, in every rank and station of life; all equally endowed with faculties; all, at the commencement, equally destitute of ideas; all starting with the ignorance and helplessness of nature; all invited to run the noble race of improvement. In the cradle, there is as little distinction of persons, as in the grave.

The great lesson, which I would teach you, is,—that it depends, mainly, on each individual, what part he will bear, in the accomplishment of this great work. It is to be done by somebody. In a quiet order of things, the stock of useful knowledge is not only preserved, but augmented; and each generation improves on that which went before. It is true, there have been periods, in the history of the world, when tyranny at home, or invasion from abroad, has so blighted and blasted the condition of society, that knowledge has perished with one generation, faster than it could be learned by another; and whole nations have sunk, from a condition of improvement, to one of ignorance and barbarity, sometimes in a very few years. But no such dreadful catastrophe is now to be feared. Those who come after us, will not only equal, but surpass their predecessors. The existing arts will be improved, science will be carried to new heights, and the great heritage of useful knowledge will go down unimpaired and augmented.

But it is all *to be shared out, anew*; and it is for each man to say, what part he will gain, in the glorious patrimony.

When the rich man is called from the possession of his treasures, he divides them, as he will, among his children and heirs. But an equal Providence deals not so, with the living treasures of the mind. There are children, just growing up in the bosom of obscurity, in town and in country, who have inherited nothing but poverty and health, who will, in a few years, be striving in stern contention with the great intellects of the land. Our system of free schools has opened a straight way from the threshold of every abode, however humble, in the village, or in the city, to the high places of usefulness, influence, and honor. And it is left for each, by the cultivation of every talent; by watching, with an eagle's eye, for every chance of improvement; by bounding forward, like a greyhound, at the most distant glimpse of honorable opportunity; by grappling, as with hooks of steel, to the prize, when it is won; by redeeming time, defying temptation, and scorning sensual pleasure; to make himself useful, honored, and happy.

EDUCATION IN THE WEST.*

The lucid exposition, which has been made of the object of the meeting, by the Right Reverend Bishop, (McIlvaine,) lightens the task of recommending it to an audience like this. I do not know but I should act more advisedly, to leave his cogent and persuasive statement, to produce its natural effect, without any attempt, on my part, to enforce it. But, as we have assembled to communicate our mutual impressions, on the subject; to consult with each other, whether we *can* do any thing, and whether we *will* do any thing, to promote the object in view, (which, I own, seems to me one of high moment,) I will, with the indulgence of the meeting, and at the request of those by whom it is called, briefly state the aspect, in which the matter presents itself to my mind.

I understand the object of the meeting, to be, to aid the funds of a rising seminary of learning, in the interior of the State of Ohio, particularly with a view to the training up of a well-educated ministry of the gospel, in that part of the United States; and the claims of such an object on this community.

As to the general question, of the establishment and support of places of education, there are principally *two courses*, which have been pursued in the practice of nations. One is, to leave them, so to say, as an afterthought,—the last thing provided for; to let the community grow up, become populous, rich, powerful; an immense body of unenlightened peasants, artisans, traders, soldiers, subjected to a small privileged class; and then, let learning creep in, with luxury; be esteemed itself a luxury, endowed out of the surplus of vast private fortunes, or endowed by the State; and, instead

* Speech at a public meeting, held at St. Paul's Church, Boston, May 21st, 1833, on behalf of Kenyon College, Ohio.

of diffusing a wholesome general influence, of which all partake, and by which, the entire character of the people is softened and elevated, forming, itself, but another of those circumstances of disparity, and jealous contrast of condition, of which too many were in existence before; adding the aristocracy of learning, acquired at expensive seats of science, to that of rank and wealth. This is, in general, the course which has been pursued, with respect to the establishment of places of education, in some countries of Europe. The other method is that introduced by our forefathers, namely, to lay the foundations of the Commonwealth on the corner-stone of religion and education; to make the means of enlightening the community go, hand in hand, with the means for protecting it against its enemies, extending its commerce, and increasing its numbers; to make the care of the mind, from the outset, a part of its public economy; the growth of knowledge, a portion of its public wealth.

This, sir, is the New-England system. It is the system on which the colony of Massachusetts was led, in 1647, to order that a school should be supported in every town; and which, eleven years earlier, caused the foundations of Harvard College to be laid, by an appropriation out of the scanty means of the country, and at a period of great public distress, of a sum equal to the whole amount raised during the year, for all the other public charges. I do not know in what words I can so well describe this system, as in those, used by our fathers themselves. Quoted, as they have been, times innumerable, they will bear quoting, again; and seem to me peculiarly apposite to this occasion: "After God had carried us safe to New England, and we had builded our houses, provided necessaries for our livelihood, reared convenient places for God's worship, and settled the civil government, one of the next things, we longed for and looked after, was, to advance learning, and perpetuate it to posterity; dreading to leave an illiterate ministry to the churches, when the present ministers shall be in the dust."

Now, sir, it is proposed to assist our brethren in Ohio, to lay the foundations of their Commonwealth on this good old New-England basis; and if ever there was a region, where it was peculiarly expedient that this should be done, most assuredly the western part of America,—and the State of Ohio as much as any other portion of it,—is that region. It is two centuries, since New England was founded, and its population, by the last census, fell short of two millions. Forty years ago, Ohio was a wilderness, and, by the same enumeration, its population was little less than a million. At this moment, the population of Ohio, (the settlement of which was commenced, in 1788, by a small party from our counties of Essex and Middlesex,) is almost twice as large as that of our ancient and venerable Massachusetts. I have seen this wonderful State, with my own eyes. The terraqueous globe does not contain a spot more favorably situated. Linked to New Orleans, on one side, by its own beautiful river and the father of waters, and united to New York, on the other side, by the lake and the Erie canal, she has, by a stupendous exertion of her own youthful resources, completed the vast circuit of communication between them. The face of the country is unusually favorable to settlement, There is little waste or broken land. The soil is fertile, the climate salubrious; it is settled by as truehearted and substantial a race, as ever founded a republic; and there they now stand, a million of souls, gathered into a political community, in a single generation!

Now, it is plain, that this extraordinary rapidity of increase requires extraordinary means, to keep the moral and intellectual growth of the people on an equality with their advancement in numbers and prosperity. These last take care of themselves. They require nothing, but protection from foreign countries, and security of property, under the ordinary administration of justice. But a system of institutions for education,—schools and colleges,—requires extra effort and means. The individual settler can fell the forest, build his log-

house, reap his crops, and raise up his family, in the round of occupations pursued by himself; but he cannot, of himself, found or support a school, far less a college; nor can he do as much toward it, as a single individual, in older States, where ampler resources and a denser population afford means, coöperation, and encouragement, at every turn. The very fact, therefore, that the growth of the country, in numbers, has been unexampled, instead of suggesting reasons why efforts in the cause of education are superfluous, furnishes an increased and increasing claim on the sympathy and good offices of all the friends of learning and education.

What, then, are the reasonable grounds of the claim, as made on us? I think I perceive several.

We live in a community comparatively ancient, possessed of an abundance of accumulated capital, the result of the smiles of Providence on the industry of the people. We profess to place a high value on intellectual improvement, on education, on religion, and on the institutions for its support. We habitually take credit that we do so. To whom should the infant community, destitute of these institutions, desirous of enjoying their benefits, and as yet not abounding in disposable means,—to whom should they look? Whither shall they go, but to their brethren, who are able to appreciate the want, and competent to relieve it? Some one must do it; these institutions, struggling into existence, must be nurtured, or they sink. To what quarter can they address themselves, with any prospect of success, if they fail here? Where will they find a community more likely to take an interest in the object, to feel a livelier sympathy in the want, more liberal, more able to give, more accustomed to give?

It is not merely in the necessity of things, that young and rising communities, if assisted at all, should derive that assistance from the older and richer; but the period is so short, since we ourselves stood in that relation to the mother country, and derived, from her bounty,

benefactions to our institutions, that the obligation to requite these favors, in the only practicable way, is fresh and strong, and like that which requires a man to pay his debts. Dr. Franklin was accustomed, sometimes, to bestow a pecuniary favor on a young man, and, instead of requiring payment, to enjoin the object of his bounty, when advanced in life, and in prosperous circumstances, to give the same sum of money, with a like injunction, to some other meritorious and needy young person. The early annals of our Country contain many instances of liberality from beyond the ocean. Our own University and that of New Haven were largely indebted,—particularly ours,—to pious and benevolent individuals in England. I know no mode of requiting these favors, (which we cannot repay to the Country from which we received them; she wants nothing we can give,) more natural and more simple, than by imitating the liberality of which we have profited, and supplying the wants of others, at that stage of their social progress, at which our own were supplied.

The inducements to such an exercise of liberality, on our part, toward our brethren in the West, are certainly stronger, than those which could have influenced England to assist the rising institutions of America. The settlers of the Western country are not the aggrieved and persecuted children of the older States. We have not driven them out from among us, by cruel star-chamber edicts, nor have they, in leaving us, shaken off from their feet the dust of an unfriendly soil. They have moved away from the paternal roof, to seek a new but not a foreign home. They have parted from their native land, neither in anger nor despair; but full of buoyant hope and tender regret. They have gone to add to the American family, not to dismember it. They are our brethren, not only after the flesh, but after the spirit also, in character and in feeling. We, in our place, regard them, neither with indifference, jealousy, nor enmity, but with fraternal affection, and true good will. Whom, in the name of Heaven, should we assist, if we

refuse to assist them? What, sir, can we minister to the intellectual and spiritual wants of Syria, and of Greece, of Burmah, of Ceylon, and of the remotest isles of the Pacific; have we enough, and to spare, for these remote nations and tribes, with whom we have no nearer kindred, than that Adam is our common parent, and Christ our common Saviour; and shall we shut our hands on the call for the soul's food, which is addressed to us, by these our brethren, our schoolmates; whose fathers stood, side by side, with ours, in the great crisis of the Country's fortune; whose forefathers rest, side by side, with ours, in the sacred soil of New England? I say nothing, sir, in disparagement of the efforts made to carry the Gospel to the furthest corners of the earth. I wish them, with all my heart, entire success. But, surely, the law of Christian love will not permit us, in our care for the distant heathen, to overlook the claims of our fellow-citizens, at home.

On a theme like this, I am unwilling to appeal to any thing like interest; nor will I appeal to an interest of a low and narrow character; but I cannot shut my eyes on those great considerations of an enlarged policy, which demand of us a reasonable liberality toward the improvement of these Western communities. In the year 1800, the State of Ohio sent one member to Congress; and Massachusetts, (not then separated from Maine,) sent twenty-one. Now, Ohio sends nineteen; and Massachusetts,—recently, and, I am constrained to add, in my judgement, unfairly,* deprived of one of her members,—sends but twelve. Nor will it stop here. "They must increase," and we, in comparison, "must decrease." At the next periodical enumeration, Ohio will probably be entitled to nearly thirty representatives, and Massachusetts to little more than a third of this number. Now, sir, I will not, on this occasion, and in this house of prayer, unnecessarily introduce topics and

* By adopting a ratio of representation, which left Massachusetts with an unrepresented fraction, sufficient, within a few hundreds, for another member.

illustrations, better befitting other resorts. I will not descant on interests and questions, which, in the divided state of the public councils, will be decided, one way or the other, by a small majority of voices. I really wish to elevate my own mind, and, as far as lies in me, the minds of those I have the honor to address, to higher views. I would ask you, not in reference to this or that question, but in reference to the whole complexion of the destinies of the Country, as depending on the action of the general government; I would ask you, as to that momentous future, which lies before us and our children; by whom, by what influence, from what quarter, is our common Country, with all the rich treasure of its character, its hopes, its fortunes, to be affected, to be controlled, to be sustained, and guided in the paths of wisdom, honor, and prosperity, or sunk into the depth of degeneracy and humiliation? Sir, the response is in every man's mind, on every man's lips. The balance of the Country's fortunes is in the West. There lie, wrapped up in the folds of an eventful futurity, the influences, which will most powerfully affect our national weal and wo. We have, in the order of Providence, allied ourselves to a family of sister communities, springing into existence and increasing with unexampled rapidity. We have called them into a full partnership in the government; the course of events has put crowns on their heads and sceptres in their hands; and we must abide the result.

But has the power indeed departed from us; the efficient, ultimate power? That, sir, is, in a great measure, as we will. The real government, in this Country, is that of opinion. Toward the formation of the public opinion of the Country, New England, while she continues true to herself, will, as in times past, contribute vastly beyond the proportion of her numerical strength. But, besides the general ascendancy which she will maintain, through the influence of public opinion, we can do two things, to secure a strong and abiding interest in the West, operating, I do not say, in our favor,

but in favor of principles and measures, which we think sound and salutary. The first is, promptly to extend toward the West, on every fitting occasion which presents itself, consistently with public and private duty, either in the course of legislation or the current of affairs, those good offices, which of right pertain to the relative condition of the two parts of the Country; to let the West know, by experience, both in the halls of Congress and the channels of commercial and social intercourse, that the East is truly, cordially, and effectively, her friend; not her rival nor enemy.

The kindly influence, thus produced, will prove of great power and value; and will go far to secure a return of fraternal feeling and political sympathy; but it will not, of itself, on great and trying occasions of a supposed diversity of sectional interest, always prove strong enough to maintain a harmony of councils. But we can do another thing, of vastly greater moment. We can put in motion a principle of influence, of a much higher and more generous character. We can furnish the means of building up institutions of education. We can, from our surplus, contribute toward the establishment and endowment of those seminaries, where the mind of the West shall be trained and enlightened. Yes, sir, we can do this; and it is so far optional with us, whether the power, to which we have subjected ourselves, shall be a power of intelligence or of ignorance; a reign of reflection and reason, or of reckless strength; a reign of darkness, or of light. This, sir, is true statesmanship; this is policy, of which Washington would not be ashamed. While the partisan of the day plumes himself upon a little worthless popularity, gained by bribing the interest of one quarter, and falling in with the prejudices of another; it is truly worthy of a patriot, by contributing toward the means of steadily, diffusively, and permanently, enlightening the public mind, as far as opportunity exists, in every part of the Country, to secure it in a wise and liberal course of public policy.

Let no Bostonian capitalist, then, let no man, who has a large stake in New England, and who is called upon to aid this Institution in the centre of Ohio, think that he is called upon to exercise his liberality at a distance, towards those in whom he has no concern. Sir, it is his own interest, he is called upon to promote. It is not their work, he is called upon to do; it is his own work. It is my opinion, which, though it may sound extravagant, will, I believe, bear examination, that, if the question were propounded to us, this moment, whether it were most for the benefit of Massachusetts, to give fifty thousand dollars toward founding another college in Middlesex, Hampshire, or Berkshire, or for the support of this College in the Ohio, we should, if well advised, decide for the latter. We have Harvard, Amherst, Williams;—we do not want another college. In the West, is a vast and growing population, possessing a great and increasing influence in the political system of which we are members. Is it for our interest, strongly, vitally, for our interest, that this population should be intelligent, and well educated; or ignorant, and enslaved to all the prejudices which beset an ignorant people?

When, then, the Right Reverend Bishop, and the friends of the West, ask you, on this occasion, to help them, they ask you, in effect, to spare a part of your surplus means, for an object, in which, to say the least, you have a common interest with them. They ask you, to contribute to give security to your own property, by diffusing the means of light and truth throughout the region, where so much of the power to preserve or to shake it resides. They ask you, to contribute to perpetuate the Union, by training up a well-educated population, in the quarter which may hereafter be exposed to strong centrifugal influences. They ask you, to recruit your waning strength, in the National councils, by enlisting on your side their swelling numbers, reared in the discipline of sound learning and sober wisdom; so that, when your voice in the government shall become comparatively weak, instead of being drowned by a

strange and unfriendly clamor, from this mighty region, it may be reechoed, with increased strength and a sympathetic response, from the rising millions of the Northwestern States. Yes, sir, they do more. They ask you, to make yourselves rich, in their respect, good-will, and gratitude;—to make your name dear and venerable, in their distant shades. They ask you, to give their young men cause to love you, now, in the spring-time of life, before the heart is chilled and hardened; to make their old men, who, in the morning of their days, went out from your borders, lift up their hands for a blessing on you, and say, "Ah, this is the good old-fashioned liberality of the land where we were born!" Yes, sir, we shall raise an altar, in the remote wilderness. Our eyes will not behold the smoke of its incense, as it curls up to heaven. But there, the altar will stand; there, the pure sacrifice of the spirit will be offered up; and the worshipper who comes, in all future time, to pay his devotions before it, will turn his face to the Eastward, and think of the land of his benefactors.

EDUCATION OF MANKIND.*

Mr. President and Gentlemen,—It has given me peculiar satisfation, to obey your call, and appear before you, on this occasion. I take a sincere pleasure, as an affectionate and dutiful child of Harvard, and as an humble member of the branch of our fraternity, which is there established, in presenting myself, within the precincts of this ancient and distinguished Seminary, for the discharge of the agreeable duty which you have assigned me. I rejoice in the confidence, which your invitation implies, that I know neither sect nor party, in the Republic of Letters; and that I enter your halls, with as much assurance of a kind reception, as I would those of my own revered and ever gracious Alma Mater. This confidence does me no more than justice. Ardently and gratefully attached to the Institution in which I received my education, I could in no way so effectually prove myself its degenerate child, as by harboring the slightest feeling of jealousy, at the expanded and growing reputation of this, its distinguished rival. In no way, could I so surely prove myself a tardy scholar of the School, in which I have been brought up, as by refusing to rejoice in the prosperity and usefulness of every sister institution, devoted to the same good cause; and especially, of this, the most eminent and efficient of her associates.

There are recollections of former times, well calculated to form a bond of good feeling between our Universities. We cannot forget, that, in the early days of Harvard, when its existence almost depended on the precarious contributions of its friends,—contributions, not of munificent affluence, but of pious poverty,—not poured into the academic coffers, in splendid donations,

* An Address delivered before the Phi Beta Kappa Society in Yale College, New Haven, Connecticut, August 20th, 1833.

but spared from the scanty means of an infant and destitute country, and presented, in their primitive form, a bushel of wheat, a cord of wood, and a string of Indian beads,—(this last, not a little to the annoyance of good old President Dunster, who, as the records of the Commissioners of the United Colonies tell us, was sorely perplexed, in sifting out, from the mass of the genuine quahog and periwinkle, bits of blue glass and colored stones, feloniously intermixed, without the least respect for the purity of the Colony's wampum,*) we cannot forget, that, in that day of small things, the contributions of Connecticut and New Haven,—as the two infant Colonies were distinguished,—flowed as liberally to the support of Cambridge, as those of Plymouth and Massachusetts. Still less would I forget, that, of the three first generations of the Fathers of Connecticut, those who were educated in America received their education at Cambridge; that the four first Presidents of Yale were graduates of Harvard; and that, of all your distinguished men, in church and state, for nearly a hundred years, a goodly proportion were fitted for usefulness in life within her venerable walls. If the success of the child be the joy of the parent, and the honor of the pupil be the crown of the master, with what honest satisfaction may not our institutions reflect, that they stood to each other in this interesting relation, in this early and critical state of the Country's growth, when the direction taken, and the character impressed, were decisive of interminable consequences. And while we claim the right of boasting of your character and institutions, as, in some degree, the fruit of a good old Massachusetts influence, we hope you will not have cause to feel ashamed of the auspices, under which, to a certain extent, the foundation of those institutions was laid, and their early progress encouraged.

In choosing a topic, on which to address you, this morning, I should feel a greater embarrassment than I

* Hazard's State Papers, Vol. II. page 124.

do, did I not suppose that your thoughts, like my own, would flow naturally into such a channel of reflection, as may be presumed at all times to be habitual and familiar, with men of liberal education and patriotic feeling. The great utility of occasions like this, and of the addresses they elicit, is not to impart stores of information, laboriously collected; not to broach new systems, requiring carefully-weighed arguments for their defence, or a multitude of well-arranged facts for their illustration. We meet, at these literary festivals, to promote kind feeling; to impart new strength to good purposes; to enkindle and animate the spirit of improvement, in ourselves and others. We leave our closets, our offices, and our studies, to meet and salute each other, in these pleasant paths; to prevent the diverging walks of life from wholly estranging those from each other, who were kind friends, at its outset; to pay our homage to the venerated fathers, who honor, with their presence, the return of these academic festivals; and those of us who are no longer young, to make acquaintance with the ardent and ingenuous, who are following after us. The preparation, for an occasion like this, is in the heart, not in the head; it is in the attachments formed and the feelings inspired, in the bright morning of life. Our preparation is in the classic atmosphere of the place, in the tranquillity of the academic grove, in the unoffending peace of the occasion, in the open countenance of long-parted associates, joyous at meeting, and in the kind and indulgent smile of the favoring throng, which bestows its animating attendance on our humble exercises.

When I look around upon the assembled audience, and reflect, from how many different places of abode, throughout our Country, the professional part of it is gathered, and in what a variety of pursuits and duties it is there occupied; and when I consider that this, our literary festival, is also honored with the presence of many, from every other class of the community, all of whom have yet a common interest in one subject,

at least, I feel as if the topic, on which I am to ask your attention, were imperatively suggested to me. It is, the nature and efficacy of Education, as the great human instrument of improving the condition of man.

Education has been, at some former periods exclusively, and more or less at all former periods, the training of a learned class; the mode, in which men of letters, or the members of the professions, acquired that lore, which enabled them to insulate themselves from the community, and gave them the monopoly of rendering the services, in church and state, which the wants or imaginations of men made necessary, and of the honors and rewards, which, by the political constitution of society, attached to the discharge of those services.

I admit, that there was something generous and liberal in education; something popular, and, if I may so express it, republican, in the educated class, even at the darkest period. Learning, even in its most futile and scholastic forms, was still an affair of the mind. It was not, like hereditary rank, mere physical accident; it was not, like military power, mere physical force. It gave an intellectual influence, derived from intellectual superiority; and it enabled some minds, even in the darkest ages of European history, to rise, from obscurity and poverty, to be the lights and guides of mankind. Such was Beda, the great luminary of a dark period, a poor and studious monk, who, without birth or fortune, became the great teacher of science and letters to the age in which he lived. Such, still more eminently, was his illustrious pupil, Alcuin, who, by the simple force of mental energy, employed in intellectual pursuits, raised himself from the cloister, to be the teacher, companion, and friend, of Charlemagne; and to whom it has been said that France is indebted, for all the polite literature of his own, and the succeeding ages.* Such, at a later period, was another poor monk, Roger Bacon,

* Cave, Hist. Lit. Sæc. VII., An. 780, cited in the Life of Alcuin, in the Biographia Britannica.

the precursor, and, for the state of the times in which he lived, scarcely the inferior, of his namesake, the immortal Chancellor.

But a few brilliant exceptions do not affect the general character of the education of former ages. It was a thing apart from the condition, the calling, the service, and the participation, of the great mass of men. It was the training of a privileged class; and was far too exclusively the instrument, by which one of the favored orders of society was enabled to exercise a tyrannical and exclusive control over the millions, which lay wrapt in ignorance and superstition. It is the great glory of the age in which we live, that learning, once the instrument of this bondage, has become the instrument of reform; that, instead of an educated class, we have made some good approach to an educated community. That intellectual culture, which gave to a few the means of maintaining an ascendency over the fears and weaknesses of their age, has now become the medium of a grand and universal mental equality, and, humanly speaking, the great concern of man. It has become the school of all the arts, for all the pursuits, and the preparation of a very considerable portion of the mass of mankind for the duties, which, in the present state of the world, devolve upon them.

Let us, then, dwell, for a moment, on what is to be effected by education, considered in its ultimate objects and most comprehensive sense, in which, of course, is included, as the most important element, the sound and enlightened influence of deep religious principle, to be cherished and applied, through the institutions existing for that sacred purpose.

A great work is to be done. What is it, in its general outline and first principles?

To answer this question, we must remember, that, of the generation now on the stage, by which the business of the Country, public and private, is carried on, not an individual, speaking in general terms, will be in a state of efficient activity, and very few in existence,

thirty years hence. Not merely those, by whom the government is administered and the public service performed, in its various civil and military departments, will have passed away; but all, who are doing the great, multifarious, never-ending, work of social life, from the highest teacher of spiritual wisdom and the profoundest expositor of the law, to the humblest artisan, will have ceased to exist. The work is to go on; the government is to be administered, laws are to be enacted and executed, peace preserved or war levied, the will of the people to be expressed by their suffrages, and the vast system of the industrious action of a great people, in all their thousand occupations, by sea and land, to be kept up and extended; but those, now employed in all this great work, are to cease from it, and others are to take their places.

Like most of the great phenomena of life,—miracles, if I may so say, of daily occurrence,—this vast change, this surcease of a whole generation, loses, from its familiarity, almost all power of affecting the imagination. The political revolution, which changes the royal succession from one family to another, which prostrates a king to elevate an emperor, and cements his throne with the blood of some hundreds, perhaps thousands, of the wretched victims of his ambition, is the wonder of the age, the perpetual theme of discourse, the standing topic of admiration. But this great revolution,—which prostrates, not one man, nor one family, in a single nation, but every man, in every family, throughout the world; which bids an entire new congregation of men to start into existence and action; which fills, with new incumbents, not one blood-stained seat of royalty, but every post of active duty, and every retreat of private life;—steals on us silently and gradually, like all the primordial operations of Providence, and must be made the topic of express disquisition, before its extent and magnitude are estimated, and the practical duties to be deduced from it are understood.

Such a revolution, however, is impending,—as deci-

sive, as comprehensive, as real, as if, instead of being the gradual work of thirty years, it were to be accomplished in a day or an hour; and so much the more momentous, for the gradual nature of the process. Were the change to be effected, at once, were this generation swept off, and another brought forward, by one great act of creative energy, it would concern us, only as speculative philanthropists, what might be the character of our successors. Whether we transmitted them a heritage honored or impaired; whether they succeeded to it, well trained to preserve and increase, or ready to waste, it, would import nothing to our interests or feelings. But, by the law of our nature, the generations of men are most closely interlaced with each other, and the decline of one and the accession of the other are gradual. One survives, and the other anticipates its activity. While, in the decline of life, we are permitted to reap, on the one hand, a rich reward for all that we have attempted patriotically and honestly, in public or private, for the good of our fellow-men; on the other hand, retribution rarely fails to overtake us, as individuals or communities, for the neglect of public duties, or the violation of the social trust.

> "We still have judgement here; that we but teach
> Bloody instructions, which, being taught, return
> To plague the inventor: this even-handed justice
> Commends the ingredients of the poisoned chalice
> To our own lips."

By this law of our natures, the places, which we fill in the world, are to be taken from us; we are to be dispossessed of our share in the honors and emoluments of life; driven from our resorts of business and pleasure; ousted from our tenements; ejected from our estates; banished from the soil we called our own, and interdicted fire and water in our native land; and those, who ward off this destiny the longest, after holding on, a little while, with a convulsive grasp, making a few more efforts, exposing their thin gray hairs, in another campaign or two, will gladly, of their own accord,

before a great while, claim to be exempts in the service.

But this revolution, growing out of the constitution of our nature, points out the business of education, as the duty and calling of man, precisely because it is not the work of violent hands, but the law of our being. It is not an outraged populace, rising in their wrath and fury, to throw off the burden of centuries of oppression. Nor is it an inundation of strange barbarians, issuing, nation after nation, from some remote and inexhaustible *officina gentium*,* lashed forward, to the work of destruction, by the chosen scourges of God. These *are* the means, by which, when corruption has attained a height beyond the reach of ordinary influences, a preparation for a great and radical revolution is made. But the revolution of which I speak, and which furnishes the principles of the great duty of education, all-comprehensive and unsparing as it is, is to be effected by a gentle race of beings, just stepping over the threshold of childhood, many of them hardly crept into existence. They are to be found within the limits of our own Country, of our own community, beneath our own roofs, clinging about our necks. Father! he, whom you folded in your arms, and carried in your bosom; whom, with unutterable anxiety, you watched, through the perilous years of childhood; whom you have brought to college, this very Commencement, and are dismissing from beneath your paternal guard, with tearful eyes and an aching heart; it is he, who is destined, (if your ardent prayers are heard,) to outthunder you at the forum and in the Senate House! Fond mother! the future rival of your not yet fading charms, the *matre pulchra filia pulchrior*,† is the rose-bud, which is beginning to open and blush by your side! Destined to supersede us, in all we hold dear, they are the objects of our tenderest cares. Soon to outnumber us, we spare no pains to protect and rear them; and the strongest instinct of

* Workshop of nations.

† The fairer daughter of a fair mother.

our hearts urges us, by every device and appliance, to bring forward those who are to fill our places, possess our fortunes, wear our honors, snatch the laurel from our heads, the words from our lips, the truncheon of command from our hands, and, at last, gently crowd us, worn out and useless, from the scene.

I have dwelt on this connexion of nature and affection, between the generations of men, because it is the foundation of the high philosophy of education. It places the duty of imparting it, upon the broad eternal basis of natural love. It is manifest, that, in the provident constitution of an intellectual order of beings, the trust of preparing each generation of which it was to consist, for the performance of its part on the great stage of life, was all-important, all-essential; too vitally so, to be put in charge with any but the most intimate principles of our being. It has, accordingly, been interwoven with the strongest and purest passions of the heart. Maternal fondness; a father's thoughtful care; the unreasoning instincts of the family circle; the partialities, the prejudices, of blood,—are all made to operate, as efficient principles, by which the risen generation is urged to take care of its successor: and, when the subject is pursued to its last analysis, we find, that education, in its most comprehensive form,—the general training and preparation of our successors,—is the great errand which we have to execute in the world. We either assume it, as our primary business, or depute it to others, because we think they will better perform it. Much of the practical and professional part we direct, ourselves. We come back to it, as a relaxation or a solace. We labor to provide the means of supplying it to those we love. We retrench in our pleasures, that we may abound in this duty. It animates our toils, dignifies our selfishness, makes our parsimony generous, furnishes the theme for the efforts of the greatest minds; and, directly or indirectly, fills up no small part of our lives.

In a word, then, we have before us, as the work to

be done by this generation, to train up that which is to succeed us.

This is a work of boundless compass, difficulty, and interest. Considered as brethren of the human family, it looks, of course, to the education of all mankind. If we confine ourselves to our duty, as American citizens, the task is momentous, almost beyond the power of description. Though the view which I would, at this time, take of the subject, does not confine itself to the fortunes of a single nation, I will dwell upon it, for a moment, exclusively in relation to this Country. I will suppose, that our Union is to remain unbroken, for another generation; a supposition which, I trust, I may safely make; and, if this should be the case, it is no violent presumption to suppose, that, in all respects, the Country will continue to advance, with a rapidity, equal to that, which has marked its progress for the last thirty years. On this supposition, the close of another generation will see our population swelled to above thirty millions; all our public establishments increased in the same ratio; four or five new States added to the Union; towns and villages scattered over regions, now lying in the unbroken solitude of Nature; roads cut across pathless mountains; rivers, now unexplored, alive with steam-boats; and all those parts of the Country, which, at this time, are partially settled, crowded with a much denser population, with all its attendant structures, establishments, and institutions. In other words, besides replacing the present numbers, a new nation, more than fifteen millions strong, will exist within the United States. The wealth of the Country will increase still more rapidly; and all the springs of social life, which capital moves, will, of course, increase in power; and a much more intense condition of existence will be the result.

It is for this state of things that the present generation is to educate and train its successors; and on the care and skill, with which their education is conducted, on the liberality, magnanimity, and single-heartedness,

with which we go about this great work, each in his proper sphere, and according to his opportunities and vocation, will, of course, depend the honor and success, with which those who come after us will perform their parts, on the great stage of life.

This reflection, of itself, would produce a deep impression of the importance of the great work of education, to be performed by the present generation of men. But we must further take into consideration, in order to the perfect understanding of the subject, the quality of that principle which is to receive, and of that which is to impart, the education; that is, of the *mind of this age* acting upon the *mind of the next;* both natures indefinitely expansive, in their capacities of action and apprehension; natures, whose powers have never been defined; whose depths have never been sounded; whose orbit can be measured, only by that Superior Intelligence, which has assigned its limits, if limits it have. When we consider this, we gain a vastly extended and elevated notion of the duty which is to be performed. It is nothing less, than to put in action the entire mental power of the present day, in its utmost stretch, consistent with happiness and virtue, and so as to develope and form the utmost amount of capacity, intelligence, and usefulness, of intellectual and moral power and happiness, in that which is to follow. We are not merely to transmit the world, as we receive it; to teach, in a stationary repetition, the arts which we have received; as the dove builds, this year, just such a nest as was built by the dove that went out from the ark, when the waters had abated; but we are to apply the innumerable discoveries, inventions, and improvements, which have been successively made in the world,—and never more than of late years,—and combine and elaborate them into one grand system of condensed efficacy and quickened vitality, in forming and bringing forward our successors.

These considerations naturally suggest the inquiry,—how much can be done by a proper exertion of our

powers and capacities, to improve the condition of our successors? Is there reason to hope, that any great advances can be made; that any considerable stride can be taken, by the moral and intellectual agency of this age, as exerted in influencing the character of the next?

I know of no way to deal practically with this great problem, but to ask, more particularly, what is effected, in the *ordinary* course of intellectual action and reaction? What is the average amount of the phenomena of education, in their final result, which the inspection of society presents to us? How much is effected, so frequently and certainly as to authorize a safe inference, as to what may be done, in the ordinary progress of the mind, and conjectures as to its possible strides, bounds, and flights?

We can make this inquiry on no other assumed basis, but that of the natural average equality of all men, as rational and improvable beings. I do not mean, that all men are created with a physical and intellectual constitution, capable of attaining, with the same opportunities, the same degree of improvement. I cannot assert that, nor would I willingly undertake to disprove it. I leave it aside; and suppose, that, on an average, men are born with equal capacities. What, then, do we behold, as regards the difference resulting from education and training? Let us take examples, in the two extremes. On the one hand, we have the most degraded savage; but little better, in appearance, than the orang outang, his fellow tenant of the woods, which afford much the same shelter for both; almost destitute of arts, except that of horribly disfiguring the features, by the painful and disgusting process of tattooing, and that of preparing a rude war-club, with which he destroys his fellow-savage of the neighboring tribe,—his natural enemy, while he lives, his food, if he can conquer or kidnap him; laying up no store of provision, but one, which I scarce dare describe,—which consists in plunging a stick into the water, where it is soon eaten to honey

comb by the worms, that abound in tropical climates, and which, then taken out, furnishes, in these worms, a supply of their most favorite food to these forlorn children of Nature. Such is this creature, from youth to age, from father to son,—a savage, a cannibal, a brute; a human being, a fellow-man, a rational and immortal soul; carrying about, under that squalid, loathsome exterior, hidden under those brutal manners and vices, at once disgusting and abominable, a portion of the intellectual principle, which likens man to his Maker.

This is one specimen of humanity; how shall we bring another into immediate contrast with it? How better, than by contemplating what may be witnessed on board the vessel, which carries the enlightened European or American to the dark and dreary corners of the earth, inhabited by these unhappy fellow-beings? You there behold a majestic vessel, bounding over the billows, from the other side of the globe; easily fashioned to float, in safety, over the bottomless sea; to spread out her broad wings, and catch the midnight breeze, guided by a single watchful sailor at the helm, with two or three companions reclining listlessly on the deck, gazing into the depths of the starry heavens. The commander of this vessel, not surpassing thousands of his brethren, in intelligence and skill, knows how, by pointing his glass at the heavens, and taking an observation of the stars, and turning over the leaves of his 'Practical Navigator,' and making a few figures on his slate, to tell the spot, which his vessel has reached, on the trackless sea: and he can also tell it, by means of a steel spring and a few brass wheels, put together in the shape of a chronometer. The glass, with which he brings the heavens down to the earth, and by which he measures the twenty-one thousand six hundredth part of their circuit, is made of a quantity of silex and alkali,—coarse, opaque substances, which he has melted together into the beautiful medium which excludes the air and the rain, and admits the light,—by means of which, he can count the orders of animated Nature in a dew-drop, and measure the

depth of the valleys in the moon. He has, running up and down his mainmast, an iron chain, fabricated at home, by a wonderful succession of mechanical contrivances, out of a rock brought from deep caverns in the earth, and which has the power of conducting the lightning harmlessly down the sides of the vessel into the deep. He does not creep timidly along, from headland to headland, nor guide his course across a narrow sea, by the north star; but he launches bravely on the pathless and bottomless deep, and carries about with him, in a box, a faithful little pilot, which points, from the other side of the globe, through the convex earth, to the steady pole. If he falls in with a pirate, he does not wait to repel him, hand to hand; but he puts into a mighty engine a handful of dark powder, in which is condensed an immense quantity of elastic air, and which, when it is touched by a spark of fire, will immeasurably expand its volume, and drive an artificial thunderbolt before it, against the distant enemy. When he meets another similar vessel, on the sea, homeward bound from an excursion like his own, he makes a few black marks on a piece of paper, and sends it home, a distance of ten thousand miles; and thereby speaks to his employer, to his family, and his friends, as distinctly and significantly, as if they were seated by his side. At the cost of half the labor with which the savage procures himself the skin of a wild beast, to cover his nakedness, this child of civilized life has provided himself with the most substantial, curious, and convenient, clothing, textures and tissues of wool, cotton, linen, and silk, the contributions of the four quarters of the globe, and of every kingdom of Nature. To fill a vacant hour, or dispel a gathering cloud from his spirits, he has curious instruments of music, which speak another language, of new and strange significance, to his heart; which make his veins thrill, and his eyes overflow with tears, without the utterance of a word; and, with a sweet succession of harmonious sounds, send his heart back, over the waste of waters, to the distant home, where his wife and his

children are gathered around the fireside, trembling at the thought, that the storm, which beats upon the windows, may perhaps overtake their beloved voyager on the distant seas. And, in his cabin, he has a library of volumes, the strange production of a machine of almost magical powers, which, as he turns over their leaves, enable him to converse with the great and good of every clime and age, and which even repeat to him, in audible notes, the laws of his God and the promises of his Saviour, and point out to him that happy land which he hopes to reach, when his flag is struck, and his sails are furled, and the voyage of life is over.

The imaginations of those, whom I have the honor to address, will be able to heighten this contrast, by a hundred traits, on either side, for which I have not time; but, even as I have presented it, will it be deemed extravagant, if I say that there is a greater difference between the educated child of civilized life and the most degraded savage, than between that savage and the orang outang? And yet the savage was born a rational being, like the civilized European and American; and the civilized European and American entered life, like the savage, a helpless, wailing babe.

This, then, is the difference, made by education. I do not mean, that, if a school were set up in New Zealand, you could convert the rising generation of savage children, in eight or ten years, into a civilized, well-educated, orderly society. I will not undertake to say, what could be done with an individual of that race, taken at birth, and brought to a Christian country, and there reared under the most favorable circumstances; nor do I know into what sort of a being one of our children would grow up, supposing it could survive the experiment, were it taken from the nurse's arms, and put in charge to a tribe of New Zealanders. But it is, upon the whole, education, in the most comprehensive sense, which, in the lapse of time, makes the vast difference which I have endeavored to illustrate, and which actually, in the case of a civilized person, transforms his

intellect, from what it is at birth, into what it becomes in the mature, consummate man.

These reflections teach us, what education ordinarily accomplishes. They illustrate its power, as measured by its effects. Let us now make a single remark on its prodigious efficacy, measured by the shortness of the time, within which it produces its wonders. When we contemplate the vast amount of the arts, useful and mechanical, elegant and literary; the sciences, pure and mixed, and of the knowledge, practical and speculative, belonging to them; a portion of which, sometimes a very large portion, is within the command of any well-educated person; the wonder we should naturally feel may be a little abated, by the consideration, that this is the accumulated product of several thousand years of study, the fruits of which have been recorded, or transmitted by tradition from age to age. But, when we reflect again upon the subject, we find, that, though this knowledge has been, for four or five thousand years, in the process of accumulation, and consists of the condensed contributions of great and gifted minds, or of the mass of average intellect, transmitted from race to race, since the dawn of letters and arts in Phœnicia and Egypt, it is nevertheless mastered by each individual, if at all, in the compass of a few years. It is in the world, but it is not inherited by any one. Men are born rich, but not learned. The La Place of this generation did not come into life, with the knowledge possessed and recorded by the Newtons, the Keplers, and the Pythagorases of other days. It is doubtful, whether, at three years old, he could count much beyond ten; and if, at six, he was acquainted with any other cycloidal curves than those generated by the trundling of his hoop, he was a prodigy, indeed. But, by the time he was twenty-one, he had mastered all the discoveries of all the philosophers who preceded him, and was prepared to build upon them the splendid superstructure of his own. In like manner, the whole race of men, who, thirty years hence, are to be the ac-

tive members of society, and some of them its guides and leaders,—its Mansfields and Burkes, its Ellsworths, Marshalls, and Websters,—the entire educated and intelligent population, which will have prepared itself with the knowledge requisite for carrying on the business of life, is, at this moment, enacting the part of

> ——"the whining school-boy, with his satchel
> And shining morning face, creeping, like snail,
> Unwillingly to school."

Our future Ciceros are mewling infants; and our Arkwrights and Fultons, who are hereafter to unfold to our children new properties of matter, new forces of the elements, new applications of the mechanical powers, which may change the condition of things, are now, under the tuition of a careful nurse, with the safeguard of a pair of leading strings, attempting the perilous experiment of putting one foot before the other. Yes, the ashes that now moulder in yonder grave-yard, the sole remains, on earth, of what was Whitney,* are not more unconscious of the stretch of the mighty mind, which they once enclosed, than the infant understandings of those, now springing into life, who are destined to follow in the luminous track of his genius, to new and still more brilliant results, in the service of man!

When we consider, in this way, how much is effected by education, and in how short a time, for the individual and the community, and thence deduce some not inadequate conception of its prodigious efficiency and power, we are irresistibly led to another reflection upon its true nature. We feel that it cannot be so much an act of the teacher, as an act of the pupil. It is not, that the master, possessing this knowledge, has poured it out of his own mind into that of the learner; but the learner, by the native power of apprehension, judiciously trained and wisely disciplined, beholds, comprehends, and appropriates, what is set before him, in

* Eli Whitney, the inventor of the cotton-gin, died January 8, 1825, and was buried at New Haven. A memoir of him will be found in a subsequent volume of 'The School Library.'

form and order; and not only so, but, with the first quickenings of the intellect, commences, himself, the creative and inventive processes. There is not the least doubt, that the active mind, judiciously trained, in reality sometimes invents, for itself, not a little of that which, being already previously known and recorded, is regarded as a part of the existing stock of knowledge. From this principle, also, we are led to an easy explanation of those curious appearances of simultaneous discoveries, in art and science, of which literary history records many examples,—such as the rival pretensions of Newton and Leibnitz, of Priestley and Lavoisier, of Bell and Lancaster, of Young and Champollion,—which show, that, at any given period, especially in a state of society favorable to the rapid diffusion of knowledge, the laws of the human mind are so sure and regular, that it is not an uncommon thing for different persons, in different countries, to fall into the same train of reflection and thought, and to come to results and discoveries, which, injuriously limiting the creative powers of the intellect, we are ready to ascribe to imitation or plagiarism.

It is, indeed, true, that one of the great secrets of the power of education, in its application to large numbers, is, that it is a mutual work. Man has three teachers, —the schoolmaster, himself, his neighbor. The instructions of the first two commence together; and, long after the functions of the schoolmaster have been discharged, the duties of the last two go on together; and what they effect is vastly more important than the work of the teacher, if estimated by the amount of knowledge self-acquired, or caught by the collision or sympathy of other minds, compared with that which is directly imparted by the schoolmaster, in the morning of life. In fact, what we learn at school and in college is but the foundation of the great work of self-instruction and mutual instruction, with which the real education of life begins, when what is commonly called the education is finished. The daily intercourse of culti-

vated minds; the emulous exertions of the fellow-votaries of knowledge; controversy; the inspiring sympathy of a curious and intelligent public;—unite in putting each individual intellect to the stretch of its capacity. A hint, a proposition, an inquiry, proceeding from one mind, awakens new trains of thought in a kindred mind, surveying the subject from other points of view, and with other habits and resources of illustration; and thus truth is constantly multiplied and propagated, by the mutual action and reaction of the thousands engaged in its pursuit. Hence the phenomena of Periclean, Augustan, and Medicean ages, and golden eras of improvement; and hence, the education of each individual mind, instead of being merely the addition of one to the well-instructed and well-informed members of the community, is the introduction of another member into the great family of intellects, each of which is a point, not only bright, but radiant, and competent to throw off the beams of light and truth in every direction. Mechanical forces, from the moment they are put in action, by the laws of matter grow fainter and fainter, till they are exhausted. With each new application, something of their intensity is consumed. It can only be kept up, by a continued or repeated resort to the source of power. Could Archimedes have found his place to stand upon, and a lever with which he could heave the earth from its orbit, the utmost he could have effected, would have been, to make it fall, a dead weight, into the sun. Not so, the intellectual energy. If wisely exerted, its exercise, instead of exhausting, increases its strength; and not only this, but, as it moves onward, from mind to mind, it awakens each to the same sympathetic, self-propagating action. The circle spreads, in every direction. Diversity of language does not check the progress of the great instructer, for he speaks in other tongues, and gathers new powers from the response of other schools of civilization. The pathless ocean does not impede, it accelerates, his progress. Space imposes no barrier,

time no period, to his efforts; and ages on ages after the poor clay, in which the creative intellect was enshrined, has mouldered back to its kindred dust, the truths which it has unfolded, moral or intellectual, are holding on their pathway of light and glory, awakening other minds to the same heavenly career.

But it is more than time to apply these principles to the condition of the world, as it now exists, and to inquire, what hope there is, in the operation of this mighty engine, of a great and beneficial progress, in the work of civilization.

We certainly live in an enlightened age; one, in which civilization has reached a high point of advancement and extension, in this and several other countries. There are several nations, besides our own, where the Christian religion, civil government, the usual branches of industry, the diffusion of knowledge, useful and ornamental, and of the fine arts, have done and are doing great things for the happiness of man. But, when we look a little more nearly, it must be confessed, that, with all that has been done in this cause, the work, which still remains to be accomplished, is very great. The population of the globe is assumed, in the more moderate estimates, to be seven hundred millions. Of these, two hundred and fifty millions are set down for America and Europe, and the residue for Asia and Africa. Two hundred and fifty millions, again, are assumed to be Christians; and of the residue, three fourths are Pagans. There is certainly a considerable diversity of condition among the various Asiatic and African, who are also the unchristianized, races, as there is also among the European and American, who belong to the family of civilization and Christianity. But, upon the whole, it must be admitted, that about two thirds of mankind are without the pale of civilization, as we understand it; and of these, a large majority are pagan savages, or the slaves of the most odious and oppressive despotisms. The Chinese and Hindoos, who make up two thirds of this division of mankind, contain,

within their vast masses, perhaps the most favorable specimens of this portion of the human family ; and if we turn from them to the Turks, the Tartars, the Persians, the native races of the interior of Africa, the wretched tribes on the coast, or the degraded population of Australia or Polynesia, we shall find but little, (except in the recent successful attempts at civilization,) on which the eye of the philanthropist can rest, with satisfaction. Almost all is dark, cheerless, and wretched.

Nor, when we look into what is called the civilized portion of the globe, is the prospect as much improved as we could wish. The broad mantle of civilization, like that of charity, covers much, which, separately viewed, could claim no title to the name. Not to speak of the native tribes of America, or the nomadic races of the Russian empire, how vast and perilous is the inequality of mental condition among the members of the civilized states of the earth! Contemplate the peasantry of the greater part of the north of Europe, attached, as property, to the soil on which they were born. The same class, in some parts of the Austrian dominions, in Spain, in Portugal, if not held in precisely the same state of political disability, are probably to a very slight degree more improved, in their mental condition. In the middle and western states of Europe, —France, Holland, Germany, and Great Britain,—although the laboring population is certainly in a more elevated and happier state, than in the countries just named, yet how little opportunity for mental improvement do even they possess! We know that they pass their lives in labors of the most unremitted character, from which they derive nothing, but the means of a most scanty support; constantly relapsing into want, at the slightest reverse of fortune, or on the occurrence of the first severe casualty.

Then consider the character of a large portion of the population of the great cities of all countries,—London, St. Petersburg, Vienna; where the extremes of human condition stand in painful juxtaposition; and, by the

side of some specimens of all that adorns and exalts humanity,—the glory of our species,—we find the large mass of the population profoundly ignorant and miserably poor, and no small part of it sunk to the depths of want and vice. It is painful to reflect, in this age of refinement, how near the two opposite conditions of our nature may be brought, without the least communication of a direct genial influence from one to the other. If any thing were necessary, beyond the slightest inspection of obvious facts, to show the artificial structure of the society in which we live, and the need of some great and generous process of renovation, it would be the reflection, that, if a man wished to explore the very abyss of human degradation, to find how low one could get in the scale of nature, without going beneath the human race; if he wished to find every want, every pang, every vice, which can unite to convert a human being into a suffering, loathsome brute; he would not have to wander to the cannibal tribes of Australia, already described, nor to the dens of the bushmen of the Cape of Good Hope. He would need only to take a ten steps' walk from Westminster Abbey, or strike off for half a quarter of a mile, in almost any direction, from the very focus of all that is elegant and refined, the pride and happiness of life, in London or Paris.

The painful impressions, produced by these melancholy truths, are increased by the consideration, that, in some parts of the region of civilization, the cause of the mind has seemed to go backward. Who can think of the former condition of the coasts of the Mediterranean, and not feel a momentary anxiety for the fortunes of the race? In ancient times, the shores of the Mediterranean, all around, were civilized, after the type of that day, flourishing and happy. In this favored region, the human mind was developed, in many of its faculties, to an extent and with a beauty, never surpassed, and scarcely ever equalled. Greece was the metropolis of this great intellectual republic; and,

through her letters and her arts, extended the domain of civilization to Asia Minor and Syria, to Egypt and Africa, to Italy and Sicily, and even to Gallia and Iberia. What a state of the world it was, when all around this wide circuit, whithersoever the traveller directed his steps, he found cities, filled with the beautiful creations of the architect and the sculptor; marble temples, in the grandest dimensions and finest proportions; statues, whose poor and mutilated fragments are the models of modern art! Wheresoever he sojourned, he found the schools of philosophy crowded with disciples, and heard the theatres ringing with the inspirations of the Attic muse, and the forum eloquent with orators of consummate skill and classic renown. We are too apt, in forming our notions of the height of Grecian civilization, to confine our thoughts to a few renowned cities, or to Athens, alone. But not only Greece, but the islands, Sicily and Magna Græcia, round all their coasts, the Ionian shore, the remote interior of Asia Minor and Syria almost to the Euphrates, the entire course of the Nile up to its cataracts, and Libya far into the desert, were filled with populous and cultivated cities. Places, whose names can scarcely be traced, but in an index of ancient geography, abounded in all the stores of art, and all the resources of instruction, in the time of Cicero. He makes one of the chief speakers in *the Orator* say, "At the present day, all Asia imitates Menecles of Alabanda, and his brother,"—orator, brother, and place, now alike forgotten! Cicero himself studied, not only under Philo the Athenian, but Milo the Rhodian, Menippus of Stratonice, Dionysius of Magnesia, Æschylus of Cnidus, and Xenocles of Adramyttium. These were the masters, the schools, of Cicero! Forgotten names, perished cities, abodes of art and eloquence, of which the memory is scarcely preserved!

What, then, is the hope, that much can be effected, in the promotion of the great object of the improvement of man, by the instrumentality of education, as we have

described it? And here, I am willing to own myself an enthusiast; and all I ask is, that men will have the courage to follow the light of general principles, and patience for great effects to flow from mighty causes. If, after establishing the great truths of the prodigious power of the principles, by which the education of the world is to be achieved, men suffer themselves to be perplexed by apparent exceptions; and especially, if they will insist upon beginning, carrying on, and completing, themselves, every thing which they propose or conceive for human improvement, forgetful that humanity, religion, national character, literature, and the influence of the arts, are great concerns, spreading out over a lapse of ages, and infinite in their perfectibility; then, indeed, the experience of one short life can teach nothing but despair.

But, if we will do justice to the power of the great principles, which I have attempted to develope, that are at work for the education of man; if we will study the causes, which, in other times, have retarded his progress, which seem, in some large portions of the globe, to doom him, even now, to hopeless barbarity; and if we will duly reflect, that what seems to be a retrograde step, in the march of civilization, is sometimes (as most memorably in the downfall of the Roman empire) the peculiar instrumentality, with which a still more comprehensive work of reform is carried on, we shall have ample reason to conceive the brightest hopes for the progress of our race; for the introduction, within the pale of civilization, of its benighted regions, and the effective regeneration of all.

We have now in our possession, three instruments of civilization, unknown to antiquity, of power separately to work almost any miracle of improvement, and the united force of which is adequate to the achievement of any thing, not morally and physically impossible. These are, the art of printing, a sort of mechanical magic for the diffusion of knowledge; free representative government, a perpetual regulator and equal-

izer of human condition, the inequalities of which are the great scourge of society; and, lastly, a pure and spiritual religion, the deep fountain of generous enthusiasm, the mighty spring of bold and lofty designs, the great sanctuary of moral power. The want of one or all of these satisfactorily explains the vicissitudes of the ancient civilization; and the possession of them all as satisfactorily assures the permanence of that, which has been, for some centuries, and is now, going on, and warrants the success of the great work of educating the world. Does any one suppose, that, if knowledge among the Greeks, instead of being confined to the cities, and, in them, to a few professional sophists and rich slave-holders, had pervaded the entire population, in that and the neighboring countries, as it is made to do, in modern times, by the press; if, instead of their anomalous, ill-balanced, tumultuary democracies and petty military tyrannies, they had been united, in a well-digested system of representative government, they and the states around them, Persia, Macedonia, and Rome; and if, to all these principles of political stability, they had, instead of their corrupting and degrading superstitions, been blessed with the light of a pure and spiritual faith;—does any one suppose that Greece and Ionia, under circumstances like these, would have relapsed into barbarism? Impossible. The Phœnicians invented letters, but what did they do with them? Apply them to the record, the diffusion, transmission, and preservation, of knowledge? Unhappily for them, that was the acquisition of a far subsequent period. The wonderful invention of alphabetical writing, to some extent at least, was probably applied by its authors to no other purpose, than to carve the name of a king on his rude statue, or perhaps to record some simple catalogue of titles on the walls of a temple. So it was with the Egyptians, whose hieroglyphics have recently been discovered to be an alphabetical character; but which were far too cumbrous, to be employed for an extensive and popular diffusion of knowledge; and which, with all the wisdom of their inventors, are not

certainly known to have been applied to the composition of books. It was the freer use of this flexible instrument of knowledge, which gave to Greece her eminence; which created so many of the objects of her national pride; and redeemed the memory of her distinguished sons, from that forgetfulness which has thrown its vast pall over the great and brave men and noble deeds, of the mighty but unlettered states of antiquity. No one thinks that the powerful and prosperous nations which flourished, for two thousand years, on the Nile and the Euphrates, were destitute of heroes, patriots, and statesmen. But, for want of a popular literature, their merits and fame did not, at the time, incorporate themselves with the popular character; and now that they are no more, their memory lies crushed, with their ashes beneath their mausoleums and pyramids. The mighty cities they built, the seats of their power, are as desolate as the cities they wasted. The races of men whom they ruled and arrayed in battle, bound in an iron servitude, degraded by mean superstitions, sunk before the first invader; and now, the very languages, on whose breath their glory was wafted from Atlas to the Indus, are lost and forgotten, because they were never impressed on the undying page of a written literature.

The more diffusive and popular nature of the Grecian literature was evidently the cause of the preservation of the national spirit of the Greeks, and with it, of their political existence. Greece, it is true, fell, and with it, the civilization of the ancient world. In this, it may seem to present us, rather an illustration of the inefficiency, than of the power, of the preservative principle of letters. But let us bear in mind, in the first place, that, greatly as the Greeks excelled the Eastern nations in the diffusion of knowledge, they yet fell infinitely below the modern world, furnished, as it is, with the all-efficacious art of printing. Still more, let us recollect, that, if Greece, in her fall, affords an example of the insufficiency of the ancient civilization, her long,

glorious, and never wholly unsuccessful, struggles, and her recent recovery from barbarism, furnish the most pleasing proof, that there is a life-spring of immortality in the combined influence of letters, freedom, and religion. Greece indeed fell. But how did she fall? Did she fall like Babylon? Did she fall "like Lucifer, never to hope again?" Or, did she not rather go down like that brighter luminary, of which Lucifer is but the herald?

> "So sinks the Day-star in the ocean's bed,
> And yet anon repairs his drooping head,
> And tricks his beams, and, with new-spangled ore,
> Flames in the forehead of the morning sky."

What, but the ever living power of literature and religion, preserved the light of civilization and the intellectual stores of the past, undiminished in Greece, during the long and dreary ages of the decline and downfall of the Roman empire? What preserved these sterile provinces and petty islets from sinking, beyond redemption, in the gulf of barbarity, in which Cyrene, and Egypt, and Syria, were swallowed up? It was Christianity and letters, retreating to their fastnesses on mountain tops, and in secluded valleys,—the heights of Athos, the peaks of Meteora, the caverns of Arcadia, the secluded cells of Patmos. Here, while all else in the world seemed swept away, by one general flood of barbarism, civil discord, and military oppression, the Greek monks of the dark ages preserved and transcribed their Homers, their Platos, and their Plutarchs. There never was, strictly speaking, a dark age in Greece. Eustathius wrote his commentaries on Homer, in the middle of the twelfth century. That, surely, if ever, was the midnight of the mind; but it was clear and serene day in his learned cell; and Italy, proud already of her Dante, her Boccaccio and Petrarch, her Medicean patronage and her reviving arts, did not think it beneath her, to sit at the feet of the poor fugitives from the final downfall of Constantinople.

What, but the same causes, enforced by the power

of the press, and by the sympathy with Greece, which pervaded the educated community of the modern world, has accomplished the political restoration of that Country? Thirteen years ago, it lay under a hopeless despotism: its native inhabitants, as such, marked out for oppression and plunder; tolerated in their religion for the sake of the exactions, of which it furnished the occasion; shut out from the hopes and honors of social life; agriculture, and all the visible and tangible means of acquisition, discountenanced; commerce, instead of lifting her honored front, like an ocean queen, as she does here, creeping, furtively, from islet to islet, and concealing her precarious gains; the seas infested with pirates, and the land with robbers; the population exhibiting a strange mixture of the virtues of the bandit and the vices of the slave, but possessing, in generous transmission from better days, some elements of a free and enlightened community. Such was Greece, thirteen years ago; and the prospect of throwing off the Turkish yoke, in every respect but this last, was as wild and chimerical, as the effort to throw off the Cordilleras from this continent. In all respects but one, it would have been as reasonable to expect to raise a harvest of grain from the barren rock of Hydra, as to found a free and prosperous state in this abject Turkish province. But the standard of liberty was raised on the soil of Greece, by the young men who returned from the universities of western Europe, and the civilized world was cheered at the tidings. It was the birthplace of the arts, the cradle of letters. Reasons of state held back the governments of Europe and of America from an interference in their favor, but intellectual sympathy, religious and moral feeling, and the public opinion of the age, rose, in their might, and swept all the barriers of state logic away. They were feeble, unarmed, without organization, distracted by feuds; an adamantine wall of neutrality on the west; an incensed barbarian empire, horde after horde, from the confines of Anatolia to the cataracts of the Nile, pouring down

upon them, on the east. Their armies and their navies were a mockery of military power; their resources, calculated to inspire rather commiseration than fear. But their spirits were sustained, and their wearied hands upheld, by the benedictions and the succors of the friends of freedom. The memory of their great men of old went before them to battle, and scattered dismay in the ranks of the barbarous foe, as he moved, with uneasy steps, over the burning soil of freedom. The sympathy of all considerate and humane persons was enlisted in behalf of the posterity, however degenerate, of those who had taught letters and humanity to the world. Men could not bear, with patience, that Christian people, striking for liberty, should be trampled down by barbarian infidels, on the soil of Attica and Sparta. The public opinion of the world was enlisted on their side; and Liberty herself, personified, seemed touched with compassion, as she heard the cry of her venerated parent, the guardian genius of Greece. She hastened to realize the holy legend of the Roman daughter, and send back from her pure bosom the tide of life to the wasting form of her parent:

> "The milk of his own gift;—it is her sire
> To whom she renders back the debt of blood,
> Born with her birth;—no, he shall not expire."

Greece did not expire. The sons of Greece caught new life from desperation; the plague of the Turkish arms was stayed; till the governments followed, where the people had led the way, and the war, which was sustained by the literary and religious sympathies of the friends of art and science, was brought to a triumphant close, by the armies and navies of Europe: and there they now stand, the first great reconquest of modern civilization.

Many, I doubt not, who hear me, have had the pleasure, within a few weeks, of receiving a Greek oration, pronounced in the temple of Theseus, on the reception, at Athens, of the first official act of the young Christian

prince, under whom, the government of this interesting country is organized. What contemplations does it not awaken, to behold a youthful Bavarian prince deputed by the great powers of Europe to go, with the guaranties of letters, religion, and the arts, to the city of Minerva, which had reached the summit of human civilization, ages before Bavaria had emerged from the depths of the Black Forest! One can almost imagine the shades of the great of other days, the patriots and warriors, the philosophers and poets, the historians and orators, rising from their renowned graves, to greet the herald of their country's restoration. One can almost fancy, that the sacred dust of the Ceramicus must kindle into life, as he draws near; that the sides of Delphi and Parnassus, and the banks of the Ilissus, must swarm with the returning spirits of ancient times. Yes! Marathon and Thermopylæ are moved to meet him, at his coming. Martyrs of liberty, names that shall never die,—Solon and Pericles, Socrates and Phocion, not now with their cups of hemlock in their hands, but with the deep lines of their living cares effaced from their serene brows,—at the head of that glorious company of poets, sages, artists, and heroes, which the world has never equalled, descend the famous road from the Acropolis to the sea, to bid the deliverer welcome to the land of glory and the arts. "Remember," they cry, "O Prince! the land thou art set to rule; it is the soil of freedom. Remember the great and wise of old, in whose place thou art called to stand, the fathers of liberty; remember the precious blood which has wet these sacred fields; pity the bleeding remnants of what was once so grand and fair; respect these time-worn and venerable ruins; raise up the fallen columns of these beautiful fanes, and consecrate them to the Heavenly Wisdom; restore the banished Muses to their native seat; be the happy instrument, in the hand of Heaven, of enthroning letters, and liberty, and religion, on the summits of our ancient hills; and pay back the debt of the civilized world to reviving, regenerated Greece. So shall the blessing of those

ready to perish come upon thee, and ages after the vulgar train of conquerors and princes is forgotten, thou shalt be remembered, as the youthful restorer of Greece!"

This is a most important step, in the extension of civilization; what is to hinder its further rapid progress, I own, I do not perceive. On the contrary, it seems to me, that political causes are in operation, destined, at no very distant period, to throw open the whole domain of ancient improvement to the great modern instruments of national education,—the press, free government, and the Christian faith. The Ottoman power,—a government, which, till lately, has shown itself hostile to all improvement,—is already dislodged from its main positions in Europe, and may before long be removed from that which it still retains. The Turk, who, four centuries ago, threatened Italy, and long since that period carried terror to the gates of Vienna, will soon find it no easy matter to sustain himself in Constantinople. His empire is already, as it were, encircled by that of Russia, a government, despotic, indeed, but belonging to the school of European civilization, acknowledging the same law of nations, connected with the intellectual family of western Europe and America, and making most rapid advances in the education of the various races which fill her vast domain. It is true, that prejudices exist against that government, at the present time, in the minds of the friends of liberal institutions. But let it not be forgotten, that, within the last century, as great a work of improvement has been carried on in the Russian empire, as was ever accomplished, in an equal period, in the history of man; and that it is doubtful whether, in any other way, than through the medium of such a government, the light of the mind could penetrate to a tenth part of the heterogeneous materials, of which that empire is composed.

It is quite within the range of political probability, that the extended dominion of the Czar will be the immediate agent of regenerating western Asia. If so, I care not how soon the Russian banner is planted on the

walls of Constantinople. No man can suppose, that an instantaneous transition can be made, in Asiatic Turkey, from the present condition of those regions, to one of republican liberty. The process must be gradual, and may be slow. If the Russian power be extended over them, it will be a civilized and a Christian sway. Letters, law, and religion, will follow in the train; and the foundation will be laid for further progress, in the advancing intelligence of the people.

On the African coast, the great centre of barbarism has fallen; and the opportunity seems to present itself of bringing much of that interesting region within the pale of civilization, under the auspices of one of the politest nations in Europe. The man, who, but fifteen years ago, should have predicted, that within so short a period of time, Greece would be united into an independent state, under a European prince; that a Russian alliance should be sought, to sustain the tottering power of the Ottoman Porte; that Algiers, which had so long bid defiance to Christendom, would be subjected; that a flourishing colony of the descendants of Africa should be planted on its western coast; and that the mystery of the Niger would be solved, and steam-boats be found upon its waters, would have been deemed a wild enthusiast. And now, when we reflect, that, at so many different points, the power of modern civilization is turned upon western Asia and Africa; that our printing presses, benevolent institutions, missionary associations, and governments, are exerting their energies, to push the empire of improvement into the waste places; when we consider, that the generation coming forward, in these regions, will live under new influences, and, instead of the Mussulman barbarism, repressing every movement toward liberty and refinement, that the influence and interest of the leading powers of Europe will be exerted to promote the great end; is it too sanguine to think, that a grand and most extensive work of national education is begun, not destined to stand still, or go backward? Go backward, did I say; what is to

hinder its indefinite progress? Why should these regions be doomed to perpetuated barbarity? Hitherto, they have been kept barbarous, by the influence of anti-christian, despotic, illiterate governments. At present, vast regions, both of eastern and western Asia, and portions of Africa, on the Mediterranean and Atlantic coasts, are under the protection of enlightened, civilized, and Christian governments, whose interest and character are alike pledged to promote the improvement of their subjects. Why should they not improve, and improve with rapidity? They occupy a soil, which once bore an intelligent population. They breathe a climate, beneath which the arts and letters once flourished. They inhabit the coasts of that renowned sea, whose opposite shores, of old, seemed to respond to each other, in grand intellectual concert, like the emulous choirs of some mighty cathedral, sending back to each other, from the resounding galleries, the alternate swell of triumph and praise. They are still inhabited by men,—rational, immortal men,—men of no mean descent, whose progenitors enrolled their names high on the lists of renown.

For myself, I see nothing to put this great work beyond hope. The causes are adequate to its achievement, the times are propitious, the indications are significant, and the work itself, though great, indeed, is not in itself chimerical or extravagant. What is it?—To teach those who have eyes, to see; to pour instruction into ears open to receive it; to aid rational minds to think; to kindle immortal souls to a consciousness of their faculties; to coöperate with the strong and irrepressible tendency of our natures; to raise, out of barbarity and stupidity, men, who belong to the same race of beings as Newton and Locke, as Shakspeare and Milton, as Franklin and Washington. Let others doubt the possibility of doing it; I cannot conceive the possibility of its remaining eventually undone. The difficulty of civilizing Asia and Africa? I am more struck with the difficulty of keeping them barbarous. When I think what man is, in his powers and improvable ca-

pacities; when I reflect on the principles of education, as I have already attempted, in this address, to develope them, my wonder is, at the condition to which man is sunk, and with which he is content, and not at any project or prophecy of his elevation.

On the contrary, I see a thousand causes at work, to hasten the civilization of the world. I see the interest of the commercial nations enlisted in the cause of humanity and religion. I see refinement, and the arts, and Christianity, borne on the white wings of trade, to the furthest shores, and penetrating, by mysterious rivers, the hidden recesses of mighty continents. I behold a private company, beginning with commercial adventure, ending in a mighty association of merchant princes, and extending a government of Christian men over a hundred millions of benighted heathens in the barbarous East; and thus opening a direct channel of communication between the very centre of European civilization and the heart of India. I see the ambition of extended sway, carrying the eagles of a prosperous empire, and, with them, the fruitful rudiments of a civilized rule, over the feeble provinces of a neighboring despotism. I see the great work of African colonization auspiciously commenced, promising no scanty indemnity for the cruel wrongs which that much-injured continent has endured from the civilized world, and sending home to the shores of their fathers an intelligent, well-educated colored population, going back with all the arts of life to this long oppressed land; and I can see the soldiers of the cross beneath the missionary banner, penetrating the most inaccessible regions, reaching the most distant islands, and achieving, in a few years, a creation of moral and spiritual education, for which centuries might have seemed too short. When I behold all these active causes, backed by all the power of public sentiment, Christian benevolence, the social principle, and the very spirit of the age, I can believe almost any thing of hope and promise. I can believe every thing sooner, than that all this mighty moral enginery can

remain powerless and ineffectual. It is against the law of our natures, fallen though they be, which tend not downwards but upwards. To those, who doubt the eventual regeneration of mankind, I would say, in the language which the wise and pious poet has put into the mouth of the fallen angel,

> "Let such bethink them,—
> That, in our proper motion, we ascend
> Up to our native seat. Descent and fall
> To us are adverse."

Let him, who is inclined to distrust the efficiency of the social and moral causes, which are quietly at work for the improvement of the nations, reflect on the phenomena of the natural world. Whence come the waters, which swell the vast current of the great rivers, and fill up the gulfs of the bottomless deep? Have they not all gone up to the clouds, in a most thin and unseen vapor, from the wide surface of land and sea? Have not these future billows, on which navies are soon to be tossed, in which the great monsters of the deep will disport themselves, been borne aloft on the bosom of a fleecy cloud, chased by a breeze, with scarce enough of substance to catch the hues of a sunbeam; and have they not descended, sometimes, indeed, in drenching rains, but far more diffusively in dewdrops, and gentle showers, and feathery snows, over the expanse of a continent, and been gathered, successively, into the slender rill, the brook, the placid stream, till they grew, at last, into the mighty river, pouring down his tributary floods into the unfathomed ocean?

Yes! let him, who wishes to understand the power of the principles at work for the improvement of our race,—if he cannot comprehend their vigor, in the schools of learning; if he cannot see the promise of their efficiency, in the very character of the human mind; if, in the page of history, sacred and profane, checkered with vicissitude as it is, he cannot, nevertheless, behold the clear indications of a progressive nature,—let him accompany the missionary bark to the Sandwich Islands.

He will there behold a people, sunk, till within fifteen years, in the depths of savage and of heathen barbarity; indebted to the intercourse of the civilized world for nothing but wasting diseases and degrading vices; placed, by Providence, in a garden of fertility and plenty, but, by revolting systems of tyranny and superstition, kept in a state of want, corruption, war, and misery. The Christian benevolence of a private American association casts its eyes upon them. Three or four individuals,—without power, without arms, without funds, except such as the frugal resources of private benevolence could furnish them; strong only in pious resolutions, and the strength of a righteous cause,—land on these remote islands, and commence the task of moral and spiritual reform. If ever there was a chimerical project, in the eyes of worldly wisdom, this was one. If this enterprise is feasible, tell me, what is not! Within less than half the time usually assigned to a generation of men, sixty thousands of individuals, in a population of one hundred and fifty thousand, have been taught the elements of human learning. Whole tribes of savages have demolished their idols, abandoned their ancient, cruel, superstitious, and barbarous, laws, and adopted some of the best institutions of civilization and Christianity. It would, I think, be difficult to find, in the pages of history, the record of a moral improvement, of equal extent, effected in a space of time so inconsiderable, and furnishing so striking an exemplification of the power of the means at work, at the present day, for the education and improvement of man.

If I mistake not, we behold, in the British empire in the East, another most auspicious agency for the extension of moral influences over that vast region. It is true, that, hitherto, commercial profit and territorial aggrandizement have seemed to be the only objects, which have been pursued by the government. But, when we look at home, at the character of the British people, an enlightened, benevolent, and liberal, community;

when we consider the power of the press, and the force of public sentiment in that Country, and the disposition to grapple with the most arduous questions, evinced by its rulers, we may hope, without extravagance, that a glorious day of improvement is destined to dawn on India, under the patronage and auspices of Great Britian. The thoughts of her public-spirited and benevolent men have long been bent on this great object. Some of the finest minds that have adorned our nature have labored in this field. I need not recall to you the boundless learning, the taste, and the eloquence, of Sir William Jones; nor the classical elegance, the ardent philanthropy, the religious self-devotion, of Heber; nor repeat a long list of distinguished names, who, for fifty years, have labored for the diffusion of knowledge in the East. Nor labored in vain. Cheering indications are given, in various quarters, of a great moral change in the condition of these vast and interesting regions, once the abode of philosophy and the arts. The bloodiest and most revolting of the superstitions of the Hindoo paganism has been suppressed by the British government. The widow is no longer compelled, by the fanatical despotism of *caste*, to sacrifice herself on the funeral pile of her husband. The whole system of the castes is barely tolerated by the government; and, being at war with the fundamental principles of the British law, as it is with the interest of the great part of the population, must, at no distant period, crumble away. The consolidation of the British empire in India promises a respite from the wars hitherto perpetually raging among the native states of that country, and forming, of themselves, an effectual barrier to every advance out of barbarism. The field seems now open to genial influences. It is impossible to repress the hope, that, out of the deep and living fountains of benevolence, in the land of our fathers, a broad and fertilizing current will be poured over the thirsty plains of India,—the abodes of great geniuses, in the morning of the world; and that letters, arts, and religion, will be extended to a

hundred millions of these mild and oppressed fellow-beings.

But it is time to relieve your patience; I will do it, after a reflection on the relation which this Country bears to the work of general education; and all I wish to say will be comprised in one word of encouragement, and one of warning.

The recent agitations of the Country have a bearing on the great moral questions we have been discussing, more important, as it seems to me, than their immediate political aspect. In its present united condition, that of a state already large and powerful, and rapidly increasing; its population more generally well educated, than that of any other country, and imbued with an unusual spirit of personal, social, and moral enterprise; it presents, in itself, the most effective organization imaginable, for the extension of the domain of improvement, at home and abroad. The vital principle of this organization is the union of its members. In this, they exjoy an exemption from the heavy burden of great local establishments of government, and still more, from the curse of neighboring states, eternal border war. In virtue of this principle, they are enabled to devote all their energies, in peace and tranquillity, to the cultivation of the arts of private life, and the pursuit of every great work of public utility, benevolence, and improvement. To attack the principle of union is to attack the prosperity of the whole and of every part of the country; it is to check the outward developement of our national activity; to turn our resources and energies, now exerted in every conceivable manner, for public and private benefit, into new channels of mutual injury and ruin. Instead of roads and canals, to unite distant States, the hill tops of those which adjoin each other would be crowned with fortresses; and our means would be strained to the utmost, in the support of as many armies and navies as there were rival sovereignties. Nor would the evil rest with the waste of treasure. The thoughts and feelings of men would as-

sume a new direction; and military renown, and rank, plunder, and revenge, be the ruling principles of the day. Destroy the Union of the States, and you destroy their character, change their occupations, blast their prospects. You shut the annals of the republic, and open the book of kings. You shut the book of peace, and you open the book of war. You unbar the gates of hell to the legion of civil discord, ambition, havoc, bloodshed, and ruin!

Let these considerations never be absent from our minds. But, if the question is asked, What encouragement is there, that a vast deal can be done, in a short time, for the improvement of man? I would say to him, who puts the question, Look around you. In what country do you live? under what state of things has it grown up? Do you bear in mind, that, in a space of time, one half of which has been covered by the lives of some yet in existence, in two hundred years, these wide-spread settlements, with so many millions of inhabitants, abounding in all the blessings of life, more liberally and equally bestowed than in any other country, have been built up in a remote and savage wilderness? Do you recollect, that it is not half a century, since, with a population comparatively insignificant, she vindicated her independence, in a war against the oldest and strongest government on earth? Do you consider, that the foundations of these powerful and prosperous States were laid by a few persecuted and aggrieved private citizens, of moderate fortune, unsupported, scarcely tolerated, by the government? If you will go back to the very origin, do you not perceive, that, as if to consecrate this Country, from the outset, as a most illustrious example of what a man can do, it was owing to the fixed impression, on the heart of one friendless mariner, pursued through long years of fruitless solicitation and fainting hope, that these vast American continents are made a part of the heritage of civilized men? Look around you again, at the institutions which are

the pride and blessing of the Country. See our entire religious establishments, unendowed by the state, supported by the united efforts of the individual citizens. See the great literary institutions of our Country, especially those in New England,—Dartmouth, Williams, Bowdoin, Brown, Amherst, and others,—founded by the liberality of citizens of moderate fortune, or by the small combined contributions of public-spirited benefactors, aided, at the most, by moderate endowments from the public treasury;—and "the two twins of learning," if I may, without arrogance, name them apart from the rest; this most efficient and respected Seminary, within whose walls we are now convened, and my own ancient and beloved Harvard; to whom, and what, do they trace their origin? Yale, to the ten worthy fathers who assembled at Branford, in 1700, and laying, each, a few volumes on the table, said, "I give these books for the founding of a college in this Colony;" and Harvard, to the dying munificence of an humble minister of the Gospel, who landed on the shores of America but to lay his dust in its soil; but who did not finish his brief sojourn, till he had accomplished a work of usefulness, which, we trust, will never die. Whence originated the great reform in our prisons, which has accomplished its wonders of philanthropy and mercy, in the short space of eight years, and made the penitentiaries of America the model of the penal institutions of the world? It had its origin in the visit of a missionary, with his Bible, to the convict's cell. Whence sprang the mighty temperance reform, which has already done so much to wipe off a great blot from the character of the Country? It was commenced on so small a scale, that it is not easy to assign its effective origin to a precise source. And counsels and efforts, as humble and inconsiderable at the outset, gave the impulse to the missionary cause of modern times, which, going forth, with its devoted champions, conquering and to conquer, beneath

——"the great ensign of Messiah,—
Aloft by angels borne, their sign in Heaven,"

has already gained a peaceful triumph over the furthest islands, and added a new kingdom to the realms of civilization and Christianity.

BENEFITS OF A GENERAL DIFFUSION OF KNOWLEDGE.*

The place of our meeting, the season of the year, and the occasion which has called us together, seem to prescribe to us the general topics of our discourse. We are assembled within the precincts of a place of education. It is the season of the year, at which the seminaries of learning, throughout the Country, are dismissing, to the duties of life, that class of their students, whose collegiate course is run. The immediate call which has brought us together, at this time, is the invitation of the literary societies of this highly respectable and fast rising Institution. Agreeably to academic usage, on the eve of their departure from a spot, endeared to them, by all the pleasant associations of collegiate life, they are desirous, by one more act of literary communion, to strengthen the bond of intellectual fellowship, and alleviate the regrets of separation. In the entire uncertainty of all that is before us, for good or for evil, there is nothing more nearly certain, than that we, who are here assembled to-day, shall never, in the providence of God, be all brought together again, in this world. Such an event is scarcely more within the range of probability, than that the individual drops, which, at this moment, make up the rushing stream of yonder queen of the valley,† mounting in vapor to the clouds, and scattered to the four winds, will, at some future period, be driven together, and fall in rains upon the hills, and flow down and recompose the identical river, that is now spreading abundance and beauty before our eyes. To say nothing of the dread summons, which comes to all, when least expected, you will scarce step

* Address delivered before the Literary Societies of Amherst College, August 25, 1835.

† Connecticut river.

out of this sanctuary of your intellectual worship, before you will find how widely the paths of life diverge, not more so, in the literal sense of the word, than in the estrangement, which results from variety of pursuit, opinion, party, and success. Influenced by the feelings which this reflection inspires, it is natural that we should pause; that we should give our minds up to the meditations which belong to the place, to the occasion, and the day; that we should inquire into the character of that general process, in which you are now taking so important a step; that we should put our thoughts in harmony with the objects that surround us, and thus seek, from the hour as it flies, from the occasion, which, in all its accidents and qualifications, will never return, to extract some abiding good impression, and to carry away some memorial, that will survive the moment.

The multiplication of the means of education, and the general diffusion of knowledge, at the present day, are topics of universal remark. There are twelve collegiate institutions in New England, whose Commencement is observed during the months of August and September, and which will send forth, the present year, on an average estimate, about four hundred graduates. There are more than fifty other institutions, of the same general character, in other parts of the United States. The greater portion of them are in the infancy of their existence and usefulness, but some of them compare advantageously with our New-England institutions. Besides the colleges, there are the schools for theological, medical, and legal education, on the one hand; and, on the other, the innumerable institutions, for preparatory or elementary instruction, from the infant schools, to which the fond and careful mother sends her darling lisper, not yet quite able to articulate, but with the laudable purpose of getting him out of the way, up to the high schools and endowed academies, which furnish a competent education for all the active duties of life. Besides these establishments for education, of various character and name, societies for the promotion of use-

ful knowledge, mechanics' institutes, lyceums, and voluntary courses of lectures, abound, in many parts of the Country, and perform a very important office in carrying on the great work of instruction. Lastly, the press, by the cheap multiplication of books, and especially by the circulation of periodical works of every form and description, has furnished an important auxiliary to every other instrument of education, and turned the whole community, so to say, into one great monitorial school. There is probably not a newspaper, of any character, published in the United States, which does not, in the course of the year, convey more useful information to its readers, than is to be found in the twenty-one folios of Albertus Magnus,—light, as he was, of the thirteenth century. I class all these agencies under the general name of the means of education, because they form one grand system, by which knowledge is imparted to the mass of the community, and the mind of the age is instructed, disciplined, and furnished with its materials for action and thought.

These remarks are made, in reference to this Country; but in some countries of Europe, all the means of education enumerated, with an exception, perhaps, in the number of newspapers, exist, to as great an extent as in our own. Although there are portions of Europe, where the starless midnight of the mind still covers society with a pall, as dreary and impervious as in the middle ages, yet it may be safely said, upon the whole, that, not only in America, but in the elder world, a wonderfully-extensive diffusion of knowledge has taken place. In Great Britain, in France, in Germany, in Holland, in Sweden, in Denmark, the press is active, schools are numerous, higher institutions for education abound, associations for the diffusion of knowledge flourish, and literature and science, in almost every form, are daily rendered more cheap and accessible. There is, in fact, no country in Europe, from which the means of light are wholly shut out.

It is the impulse of the liberal mind to rejoice in this

manifest progress of improvement, and we are daily exchanging congratulations with each other, on the multiplication, throughout the world, of the means of education. There are not wanting, however, those who find a dark side, even to such an object as this. We ought not, therefore, either to leave a matter, so important, exposed to vague prejudicial surmises, on the one hand; nor, on the other, should we rest merely in the impulses of liberal feeling and unreflecting enthusiasm. We should fortify ourselves, in a case of such magnitude, in an enlightened conviction. We should seek to reduce, to an exact analysis, the great doctrine, that the extension of the means of education, and the general diffusion of knowledge, are beneficial to society. It is the object of the present address, to touch, briefly, and in the somewhat desultory manner required, on such an occasion, on some of the prominent points involved in this great subject; and to endeavor to show, that the diffusion of knowledge, of which we have spoken, is favorable to liberty, to science, and virtue; to social, intellectual, and spiritual, improvement; the only three things which deserve a name, below.

I. Although liberty, strictly speaking, is only one of the objects, for which men have united themselves in civil societies, it is so intimately connected with all the others, and every thing else is so worthless, when liberty is taken away, that its preservation may be considered, humanly speaking, the great object of life, in civilized communities. It is so essential to the prosperous existence of nations, that, even where the theory of the government, as in many absolute monarchies, seems to subvert its very principle, by making it depend on the will of the ruler, yet usage, prescription, and a kind of beneficent instinct of the body politic, secure to the people some portion of practical liberty. Where political interests and passions do not interfere, (which they rarely do, in respect to the private rights of the mass of the community,) the subjects of the absolute monarchies, of the north and east of Europe, enjoy almost as

large a share of liberty, as those of what are called the constitutional governments, in their neighborhood. Where this is not the case, where a despotic theory of the government is carried out into a despotic administration, and life, rights, and property, are habitually sacrificed to the caprice and passions of men in power, as in all the despotisms which stretch across Asia, from the Euxine to the Pacific, there, the population is kept permanently degenerate, barbarous and wretched.

Whenever we speak of liberty, in this connexion, we comprehend, under it, legal security for life, personal freedom, and property. As these are equally dear to all men; as all feel, with equal keenness and bitterness, the pang which extinguishes existence, the chain which binds the body, the coercion which makes one toil for another's benefit; it follows, as a necessary consequence, that all governments which subvert liberty are founded on force; that all despotisms are, what some, by emphasis, are occasionally called, *military despotisms*. The degree of force, required to hold a population in subjection, other things being equal, is in direct ratio to its intelligence and skill; its acquaintance with the arts of life; its sense of the worth of existence; in fine, to its spirit and character. There is a point, indeed, beyond which, this rule fails, and at which, even the most thoroughly-organized military despotism cannot be extended over the least intellectual race of subjects, serfs, or slaves. History presents us with the record of numerous servile wars and peasant's wars, from the days of Spartacus to those of Tupac Amaru; in which, at the first outbreak, all the advantages of authority, arms, concert, discipline, skill, have availed the oppressor nothing against humanity's last refuge, the counsel of madness, and the resources of despair.

There are two ways, in which liberty is promoted by the general diffusion of knowledge. The first is, by disabusing the minds of men of the theoretical frauds, by which arbitrary governments are upheld. It is a remark, almost if not quite without exception, that all

governments, unfriendly to well-regulated liberty, are founded on the basis of some religious imposture; the arm of military violence is clothed with the enervating terrors of superstition. The Oriental nations, as far back as our accounts run, worshipped their despots as divinities, and taught this monstrous adulation to the successors of Alexander. The Roman emperors, from the time of Julius Cæsar, were deified; and the absolutism of modern times rests on a basis a little more refined, but not more rational. The divine right of Henry VIII. or of Charles V. was no better, in the eye of an intelligent Christian, than that of their contemporary, Solyman the Magnificent.

Superstitions like these, resting, like all other superstitions, on ignorance, vanish, with the diffusion of knowledge, like the morning mists, on yonder river, before the rising sun; and governments are brought down to their only safe and just basis,—the welfare and will of the governed. The entire cause of modern political reform has started in the establishment of this principle, and no example is more conspicuous, than that which, for the magnitude of the revolution and the immensity of its consequences, is called, *The Reformation;* and which, on account of the temporal usurpations of the Church of Rome, the intrusion of its power into the affairs of foreign countries, and the right claimed by the Pope, to command the obedience of subject and sovereign,—was not less a political, than a religious revolution. Throughout this great work, the course and conduct of Luther present a most illustrious example of the efficacy of a diffusion of knowledge, of an appeal to the popular mind, in breaking the yoke of the oppressor, and establishing a rational freedom. When he commenced the great enterprise, he stood alone. The governments acknowledged the supremacy of the Roman pontiff. The teachers of the universities and schools were, for the most part, regular priests, bound, not only by the common tie of spiritual allegiance, but by the rules of the monastic orders to which they belonged. The books of

authority were exclusively those of the schoolmen, implicitly devoted to the church, filled with fantastical abstractions, with a meager and unprofitable logic, and written in a dead language. In this state of things, says Lord Bacon, "Martin Luther, conducted, no doubt, by a higher Providence, but in a discourse of reason, finding what a province he had undertaken, against the Bishop of Rome and the degenerate traditions of the church, and finding his own solitude, being no ways aided by the opinions of his own time, was enforced to awake all antiquity, and to call former times to his succor, to make a party against the present time. So that the ancient authors, both in divinity and humanity, which had long time slept in libraries, began generally to be read and revolved. This, by consequence, did draw on a necessity of a more exquisite travel in the languages original, wherein those authors did write, for a better understanding of those authors, and the better advantages of pressing and applying their words. And thereof grew, again, a delight in their manner and style of phrase, and an admiration of that kind of writing; which was much furthered and precipitated by the enmity and opposition, that the propounders of those primitive but seeming new opinions had against the schoolmen, who were generally of the contrary part, and whose writings were altogether in a different style and form, taking liberty to coin and frame new terms of art, to express their own sense, and to avoid circuit of speech, without regard to the pureness, pleasantness, and, as I may call it, lawfulness, of the phrase or word. And again, because the great labor then was with the people, of whom the Pharisees were wont to say, *execrabilis ista turba, quæ non novit legem;** for the winning and persuading them, there grew, of necessity, in chief price and request, eloquence and variety of discourse, as the fittest and forciblest access into the capacity of the vulgar sort."†

* John VII. 49.

† Lord Bacon's Works, Vol. I., p. 14, 4to ed.

With the greatest reverence for the authority of Lord Bacon, I would say, that he seems to me to have somewhat mistaken the relative importance of the great instruments of the Reformation. Some of the controversial works of Luther, it is true, were written in Latin; but in the solemn loneliness, in which he found himself, he called around him, not so much the masters of the Greek and Latin wisdom, through the study of the ancient languages, as he did the mass of his own countrymen, by his translation of the Bible. It would have been a matter of tardy impression and remote efficacy, had he done no more than awake from the dusty alcoves of the libraries the venerable shades of the classic teachers. He roused up a population of living, sentient men, his countrymen, his brethren. He might have written and preached in Latin, to his dying day, and the elegant Italian scholars, champions of the church, would have answered him in Latin better than his own;—and with the mass of the people, the whole affair would have been a contest between angry and loquacious priests. He took into his hands, not the oaten pipe of the classic Muse; he moved to his great work, not

——"to the Dorian mood
Of flutes, and soft recorders:"—

he grasped the iron trumpet of his mother tongue,—the good old Saxon, from which our own is descended, the language of noble thought and high resolve,—and blew a blast, that shook the nations from Rome to the Orkneys. Sovereign, citizen, and peasant, started at the sound; and, in a few short years, the poor monk, who had begged his bread for a pious canticle, in the streets of Eisenach,* no longer friendless, no longer solitary, was sustained by victorious armies, countenanced by princes, and, what is a thousand times more precious than the brightest crown in Christendom, revered as a sage, a benefactor, and a spiritual parent, at the firesides of millions of his humble and grateful countrymen.

Nor do we less plainly see, in this, as in numerous

* Luther's Werke, Th. X., 524.

other examples, in the modern history of liberty, the more general operation of the influences, by which the diffusion of knowledge promotes rational freedom. Simply to overturn the theoretical sophisms, upon which any particular form of despotism may rest, is but to achieve a temporary work. While the mass of the people remain ignorant, to undermine the system of oppression, political or ecclesiastical, under which, at any time, they may labor, is but to stagger darkling from one tyranny to another. It is for this reason,—a truth, too sadly exemplified in the history of the world, for the last fifty years,—that countries, in which the majority of the people have grown up, without knowledge, stung to madness by intolerable oppression, may make a series of plunges, through scenes of successive revolution and anarchy, and come out, at last, drenched in blood, and loaded with chains.

We must therefore trace the cause of political slavery beyond the force, which is the immediate instrument; beyond the superstition, which is its puissant ally; beyond the habit and usage, the second nature, of governments as of men; and we shall find it in that fatal inequality which results from hereditary ignorance. This is the ultimate, the broad, the solid, foundation of despotism. A few are wise, skilful, learned, wealthy; millions are uninformed, and consequently unconscious of their rights. For a few, are concentrated the delights, the honors, and the excitements, of life; for all the rest, remains a heritage of unenlightened subjection and unrewarded toil.

Such is the division of the human race, in all the Oriental despotisms, at the present day. Such it was in all Europe, in the middle ages. Such, in some parts of Europe, it still is; such it naturally must be, every where, under institutions which keep the mass of the people ignorant. A nation is numerically reckoned at its millions of souls. But they are not souls; the greater part are but bodies. God has given them souls, but man has done all but annihilate the immortal principle:

its life-spring, its vigor, its conscious power, are broken down, and the people lie buried in subjection, till, through the medium of the understanding, a new creation takes place. The physical creation began with light; the intellectual and moral creation begins with light, also. Chosen servants of Providence are raised up, to speak the word; power is given to political or religious reformers, to pronounce the decree; it spreads, like the elemental beam, by the thousand channels of intelligence, from mind to mind, and a new race is created. Let there be light; let those rational intellects begin to think. Let them but look in upon themselves, and see that they are men, and look upon their oppressors, and see if they are more. Let them look round upon Nature: "it is my Father's dominion; shall not my patient labor be rewarded with its share?" Let them look up to the heavens: "has He, that upholds their glorious orbs, and who has given me the capacity to trace and comprehend their motions, designed me to grovel, without redemption, in the dust beneath my feet, and exhaust my life for a fellow-man no better than myself?"

These are the truths, which, in all ages, shoot through the understandings to the hearts of men; they are what our revolutionary fathers called "first principles;" and they prepared the way for the Revolution. All that was good in the French Revolution was built upon them. They are the corner-stone of modern English liberty; they emancipated the Netherlands and the Swiss Cantons; and they gave to republican Greece and Rome that all but miraculous influence in human affairs, which succeeding ages of civil discord, of abuse, and degeneracy, have not yet been able to countervail. They redress the inequalities of society. When, penetrated with these great conceptions, the people assert their native worth and inherent rights, it is wonderful to behold how the petty badges of social inequality, the emblems of rank and of wealth, are contemned. Cincinnatus, who saved Rome from the Sabines, was found

ploughing his own land, a farm of four acres, when created dictator; and Epaminondas, who rescued his country from the domination of Sparta, and was implored by the emissaries of the king of Persia to do their master the honor to take his bribes, possessed no other property, when he fell gloriously at Mantinæa, than the humble utensils for cooking his daily food. A single bold word, heroic exploit, or generous sacrifice, at the fortunate crisis, kindles the latent faculties of a whole population, turns them from beasts of burden into men; excites to intense action and sympathetic counsel, millions of awakened minds, and leads them forth to the contest. When such a developement of mental energy has fairly taken place, the battle is fought and won. It may be long and deadly, it may be brief and bloodless. Freedom may come, quickly, in robes of peace, or after ages of conflict and war; but come it will, and abide it will, wherever the principles on which it rests have taken hold of the general mind.

Nor let us forget, that the dangers to which liberty is exposed are not all on the side of arbitrary power. That popular intelligence, by which the acquisition of rational freedom is to be made, is still more necessary to protect it against anarchy. Here, is the great test of a people, who deserve their freedom. Under a parental despotism, the order of the state is preserved, and life and property are protected, by the strong arm of the government. A measure of liberty, that is, safety from irregular violence, is secured by the constant presence of that military power, which is the great engine of subjection. But, beneath a free government, there is nothing but the intelligence of the people, to keep the people's peace. Order must be preserved, not by a military police, but by the spontaneous concert of a well-informed population, resolved that the rights, which have been rescued from despotism, shall not be subverted by anarchy. As the disorder of a delicate system, and the degeneracy of a noble nature, are spectacles more grievous than the corruption of meaner

things, so, if we permit the principle of our government to be subverted, havoc, terror, and destruction, beyond the measure of ordinary political catastrophes, will be our lot. This is a subject of intense interest to the people of the United States, at the present time. To no people, since the world began, was such an amount of blessings and privileges ever given in trust. No people was ever so eminently made the guardians of their own rights; and, if this great experiment of rational liberty should here be permitted to fail, I know not where or when, among the sons of Adam, it will ever be resumed.

II. But it is more than time to proceed to the second point, which I proposed to illustrate,—the favorable influence of the extension of the means of education, and the diffusion of knowledge, on the progress of sound science. It is a common suggestion, that, while the more abundant means of popular education, existing at the present day, may have occasioned the diffusion of a considerable amount of superficial knowledge, the effect has been unfavorable to the growth of profound science. I am inclined to think this view of the subject entirely erroneous; an inference, by no means warranted by the premises from which it is drawn. It is no doubt true, that, in consequence of the increased facilities for education, the number of students, of all descriptions, both readers and writers, is almost indefinitely multiplied; and, with this increase in the entire number of persons who have enjoyed, in a greater or less degree, advantages for improving their minds, the number of half-taught and superficial pretenders has become proportionably greater. Education, which, at some periods of the world, has been a very rare accomplishment of a highly-gifted and fortunate few; at other times, an attainment attended with considerable difficulty, and almost confined to professed scholars; has become, in some parts of this Country, one of the public birthrights of the people. In this state of things, those who habitually look on the dark side,—often wit-

nessing the arrogant displays of superficial learning; books, of great pretension and little value, multiplied and circulated by all the arts and machinery of an enterprising and prosperous age; and in all things much forwardness and show, sometimes unaccompanied by worth and substance,—are apt to infer a decline of sound learning, and look back, with a sigh, to what they imagine to have been the more solid erudition of former days. But I deem this opinion without real foundation, in truth.

It is an age, no doubt, of cheap fame. A sort of literary machinery exists, of which the patent papermill, the power-press, the newspapers, magazines, and reviews, the reading societies, and circulating libraries, are some of the principal springs and levers, by means of which, almost any thing, in the shape of a book, is thrown into a sort of notoriety, miscalled reputation. But nothing is to be inferred, from this state of things, in disparagement of the learning and scholarship of the age. All that it proves is, that, with a vast diffusion of useful knowledge, with an astonishing multiplication of the means of education, and, as I believe, with a corresponding growth of true science, there has sprung up, by natural association, an abundance of triflers and pretenders, like a growth of rank weeds, with a rich crop, on a fertile soil.

There were, surely, always pretenders in science and literature, in every age of the world; nor must we suppose, because their works and their names have perished, that they existed in a smaller proportion, formerly, than now. Solomon intimates a complaint of the number of books, in his day, which he probably would not have done, if they had all been good books. The sophists in Greece were sworn pretenders and dealers in words; the most completely organized body of learned quacks that ever existed. Bavius and Mævius were certainly not the only worthless poets in Rome; and from the age of the grammarians and critics of the Alexandrian school, through that of the monkish chroniclers and the schoolmen of the middle ages, and the

mystics of the sixteenth and seventeenth centuries, there has been no *interregnum* in the kingdom of learned dullness and empty profession. If the subjects, at the present day, seem more numerous than formerly, it is only in proportion to the increase in the entire numbers of the reading and writing world; and because the sagacious hand of time brushes away the false pretensions of former days, leaving real talent and sound learning the more conspicuous, for standing alone.

But, as in elder days, notwithstanding this unbroken sway of false lore and vain philosophy, the line of the truly wise and soundly learned was also preserved, entire; as the lights of the world have, in all former ages, successively risen, illuminating the deep darkness and outshining the delusive meteors; so, at the present day, I am firmly convinced, that there is more patient learning, true philosophy, fruitful science, and various knowledge, than at any former time. By the side of the hosts of superficial, arrogant, and often unprincipled, pretenders, in every department, there is a multitude, innumerable, of the devoted lovers of truth, whom no labor can exhaust, no obstacles discourage, no height of attainment dazzle; and who, in every branch of knowledge, sacred and profane, moral, physical, exact, and critical, have carried, and are carrying, the glorious banner of true science into regions of investigation, wholly unexplored in elder times. Let me not be mistaken. I mean not arrogantly to detract from the fame of the great master minds, the gifted few, who, from age to age, after long centuries have intervened, have appeared; and have risen, as all are ready to allow, above all rivalry. Aftertime, alone, can pronounce, whether this age has produced minds worthy to be classed in their select circle. But, this aside, I cannot comprehend the philosophy, by which we assume, as probable, nor do I see the state of facts, by which we must admit, as actually existing, an intellectual degeneracy, at the present day, either in Europe or in this Country. I see not, why the multiplication of popular guides to

partial attainments; why the facilities, that abound for the acquisition of superficial scholarship, should, in the natural operation of things, either diminish the number of powerful and original minds, or satisfy their ardent thirst for acquisition, by a limited progress.

There is no doubt, that many of these improvements, in the methods of learning; many of the aids to the acquisition of knowledge, which are the product of the present time; are, in their very nature, calculated to help the early studies, even of minds of the highest order. It is a familiar anecdote told of James Otis, that, when he first obtained a copy of Blackstone's Commentaries, he observed, with emphasis, that, if he had possessed that book, when commencing his study of the law, it would have saved him seven years' labor. Would those seven years have borne no fruit, to a mind like that of James Otis? Though the use of elementary treatises, of this kind, may have the effect to make many superficial jurists, who would otherwise have been no jurists at all, I deem it mere popular prejudice to suppose, that the march of original genius, to the heights of learning, has been impeded, by the possession of these modern facilities, to aid its progress. To maintain this seems to be little else than to condemn, as worthless, the wisdom of the ages which have gone before us. It is surely absurd, to suppose that we can do no more, with the assistance of our predecessors, than without it; that the teachings of one generation, instead of enlightening, confound and stupify that which succeeds; and that, "when we stand on the shoulders of our ancestors, we cannot see so far as from the ground." On the contrary, it is unquestionably one of the happiest laws of intellectual progress, that the judicious labors, the profound reasonings, the sublime discoveries, the generous sentiments, of great intellects, rapidly work their way into the common channel of public opinion, find access to the general mind, raise the universal standard of attainment, correct popular errors, promote arts of daily application, and come

home, at last, to the fireside, in the shape of increased intelligence, skill, comfort, and virtue; which, in their turn, by an instantaneous reaction, multiply the numbers, and facilitate the efforts, of those, who engage in the further investigation and discovery of truth. In this way, a constant circulation, like that of the life-blood, takes place in the intellectual world. Truth travels down, from the heights of philosophy to the humblest walks of life, and up, from the simplest perceptions of an awakened intellect to the discoveries, which almost change the face of the world. At every stage of its progress, it is genial, luminous, creative. When first struck out, by some distinguished genius, it may address itself only to a few minds, of kindred power. It exists, then, only in the highest forms of science; it corrects former systems, and authorizes new generalizations. Discussion and controversy begin, more truth is elicited, more errors exploded, more doubts cleared up, more phenomena drawn into the circle, unexpected connexions of kindred sciences are traced, and, in each step of the progress, the number rapidly grows, of those who are prepared to comprehend and carry on some branches of the investigation,—till, in the lapse of time, every order of intellect has been kindled, from that of the sublime discoverer to the practical machinist; and every department of knowledge been enlarged, from the most abstruse and transcendental theory to the daily arts of life.

I presume, it would not be difficult to deduce, from the discovery and demonstration of the law of gravity, attainments in useful knowledge, which come home, every day, to the business and bosoms of men; enlightening the mass of the community, who have received a common education, on points, concerning which the greatest philosophers of former times were at fault. Bold as the remark sounds, there is not a young man, who will to-morrow receive his degree on this stage, who could not correct Lord Bacon, in many a grave point of natural science. This great man questioned

the rotation of the earth on its axis, after it had been affirmed by Copernicus, Kepler, and Galileo. He states, positively, that he judges the work of making gold possible,* and even goes so far, after condemning the procedure of the alchymists, as to propound his own. Finally, he says, it "is not impossible, and I have heard it verified, that, upon cutting down of an old timber tree, the stub hath put out, sometimes, a tree of another kind, as that beech hath put forth birch; which, if it be true," the Chancellor discreetly adds, "the cause may be, for that the old stub is too scanty of juice to put forth the former tree, and therefore putteth forth a tree of a smaller kind, that needeth less nourishment."† Surely no man can doubt, that the cause of true science has been promoted by such a diffusion of knowledge, as has eradicated even from the common mind, such errors as these, from which, notwithstanding their grossness, the greatest minds of other times could not emancipate themselves.

It is extremely difficult even for the boldest intellects, to work themselves free of all those popular errors, which form a part, as it were, of the intellectual atmosphere in which they have passed their lives. Copernicus was one of the boldest theorists that ever lived, but was so enslaved, by the existing popular errors, as, even while proposing his own simple and magnificently beautiful theory of the heavens, to retain some of the most absurd and complicated contrivances of the Ptolemaic scheme.‡ Kepler was one of the most sagacious and original of philosophers, and the laws, which bear his name, have been declared, on respectable authority, "the foundations of the whole theory of Newton;"

* "The world hath been much abused by the opinion of making gold. The work, itself, I judge to be possible; but the means hitherto propounded to effect it are, in the practice, full of error and imposture, and, in the theory, full of unsound imaginations."—*Lord Bacon's Works, Vol. I. p.* 204.

† Lord Bacon's Works, Vol. I. p. 241.

‡ Dr. Small's Account of the Astronomical Discoveries of Kepler, Chap. III. and VIII.

but he believed that the planets were monstrous animals, swimming in the ethereal fluid, and speaks of storms and tempests as the pulmonary heavings of the great Leviathan, the earth, breathing out hurricanes from its secret spiracles, in the valleys and among the hills. It may raise our admiration of this extraordinary man, that, with notions so confused and irrational, he should, by a life of indefatigable research, discover some of the sublimest laws of Nature; but no one can so superstitiously reverence the past, no one so blindly undervalue the utility of the diffusion of knowledge, as not to feel, that these absurdities must have hung like a millstone about the necks of the strongest minds of former ages, and dragged them, in the midst of their boldest flights, to the dust. When I behold minds like these, fitted to range, with the boldest step, in the paths of investigation, bound down by subjection to gross prevailing errors, but, at length, by a happy effort of native sense, or successful study, grasping at the discovery of some noble truth, it brings to my mind Milton's somewhat fantastical description of the creation of the animals, in which the great beasts of the forest, not wholly formed, are striving to be released from their native earth:

> ——" now half appeared
> The tawny lion, struggling to get free
> His hinder parts, then springs, as burst from bonds,
> And rampant shakes his brinded mane."

In short, when we consider the laws of the human mind, and the path by which the understanding marches to the discovery of truth, we must see that it is the necessary consequence of the general diffusion of knowledge, that it should promote the progress of science. Since the time of Lord Bacon, it has been more and more generally admitted, that the only path to true knowledge is the study and observation of Nature, either in the phenomena of the external creation, or in the powers and operations of the human mind. This does not exclude the judicious use of books, which record

the observations and the discoveries of others, and are of inestimable value, in guiding the mind in its own independent researches. They are, in fact, not its necessary, but its most usual instruments; and as the book of Nature is never so well perused, as with the assistance of the learned and prudent, who have studied it before us, so the true and profitable use of books is, to furnish materials, on which other minds can act, and to facilitate their observation of Nature.

I know not where I could find a better illustration of their value, and of their peculiar aptitude to further the progress of knowledge, than in the admirable report on the geology of Massachusetts, which has recently emanated from this place.* Under the enlightened patronage of the Commonwealth, a member of the Faculty of this Institution has set before the citizens of the State such a survey of its territory, such an inventory of its natural wealth, such a catalogue of its productions, in the animal, the vegetable, but chiefly in the mineral, world, as cannot be contemplated, without gratification and pride. By one noble effort of learned industry and vigorous intellectual labor, the whole science of geology, one of the great mental creations of modern times, has been brought home, and applied to the illustration of our native State. There is not a citizen, who has learned to read, in the humblest village of Massachusetts, from the hills of Berkshire to the sands of Nantucket, who has not now placed within his reach the means of beholding, with a well-informed eye, either in his immediate neighborhood, or in any part of the State to which he may turn his attention, the hills and the vales, the rocks and the rivers, the soil and the quarrries, that lie beneath it. Who can doubt, that, out of the hundreds, the thousands, of liberal minds, in every part of the Commonwealth, which must thus be awakened to the intelligent observation of Nature, thus helped over the elementary difficulties of the science, not a few will

* Report on the Geology, Mineralogy, Botany, and Zoology, of Massachusetts, by Professor Hitchcock.

be effectually put upon the track of independent inquiries and original attainments in science!

We are confirmed in the conclusion, that the popular diffusion of knowledge is favorable to the growth of science, by the reflection, that, vast as is the domain of learning, and extraordinary as is the progress which has been made, in almost every branch, it may be assumed as certain,—I will not say, that we are in its infancy, but, as truth is as various as Nature, and as boundless as creation,—that the discoveries already made, wonderful as they are, bear but a small proportion to those that will hereafter be effected. In the yet unexplored wonders and yet unascertained laws of the heavens; in the affinities of the natural properties of bodies; in magnetism, galvanism, and electricity; in light and heat; in the combination and application of the mechanical powers; the use of steam; the analysis of mineral products; of liquid and äeriform fluids; in the application of the arts and sciences to improvements in husbandry, to manufactures, to navigation, to letters, and to education; in the great department of the philosophy of the mind, and the realm of morals; and, in short, to every thing that belongs to the improvement of man,—there is yet a field of investigation, broad enough to satisfy the most eager thirst for knowledge, and diversified enough to suit every variety of taste, order of intellect, or degree of qualification.

For the peaceful victories of the mind, that unknown and unconquered world, for which Alexander wept, is for ever near at hand; hidden, indeed, as yet, behind the veil with which Nature shrouds her undiscovered mysteries, but stretching all along the confines of the domain of knowledge, sometimes nearest when least suspected. The foot has not yet pressed, nor the eye beheld it; but the mind, in its deepest musings, in its widest excursions, will sometimes catch a glimpse of the hidden realm, a gleam of light from the Hesperian Island, a fresh and fragrant breeze from off the undiscovered land,

"Sabæan odors from the spicy shore,"

which happier voyagers, in aftertimes, will approach, explore, and inhabit. Who has not felt, when, with his very soul concentred in his eyes, while the world around him is wrapped in sleep, he gazes into the holy depths of the midnight heavens, or wanders, in contemplation, among the worlds and systems that sweep through the immensity of space,—who has not felt, as if their mystery must yet more fully yield to the ardent, unwearied, imploring research of patient science? Who does not, in those choice and blessed moments, in which the world and its interests are forgotten, and the spirit retires into the inmost sanctuary of its own meditations, and there, unconscious of every thing but itself and the infinite Perfection, of which it is the earthly type, and kindling the flame of thought on the altar of prayer,—who does not feel, in moments like these, as if it must, at last, be given to man, to fathom the great secret of his own being; to solve the mighty problem

"Of Providence, foreknowledge, will, and fate!"

When I think, in what slight elements the great discoveries, that have changed the condition of the world, have oftentimes originated; on the entire revolution, in political and social affairs, which has resulted from the use of the magnetic needle; on the world of wonders, teeming with the most important scientific discoveries, which has been opened by the telescope; on the all-controlling influence of so simple an invention as that of movable metallic types; on the effects of the invention of gunpowder, the result, perhaps, of some idle experiment in alchymy; on the consequences of the application of the vapor of boiling water to the manufacturing arts, to navigation, and transportation by land; on the results of a single sublime conception, in the mind of Newton, on which he erected, as on a foundation, the glorious temple of the system of the heavens;—in fine, when I consider how, from the great master-principle of the philosophy of Bacon,—the induction of truth

from the observation of fact,—has flowed, as from a living fountain, the fresh and still swelling stream of modern science, I am almost oppressed with the idea of the probable connexion of the truths already known, with great principles which remain undiscovered; of the proximity in which we may unconsciously stand, to the most astonishing, though yet unrevealed, mysteries of the material and intellectual world.

If, after thus considering the seemingly obvious sources, from which the most important discoveries and improvements have sprung, we inquire into the extent of the field, in which further discoveries are to be made, which is no other and no less than the entire natural and spiritual creation of God, a grand and lovely system, even as we imperfectly apprehend it, but, no doubt, most grand, lovely, and harmonious, beyond all that we now conceive or imagine; when we reflect that the most insulated, seemingly disconnected, and even contradictory, parts of the system are, no doubt, bound together, as portions of one stupendous whole; and that those, which are at present the least explicable, and which most completely defy the penetration hitherto bestowed upon them, are as intelligible, in reality, as that which seems most plain and clear; that, as every atom in the universe attracts every other atom, and is attracted by it, so every truth stands in harmonious connexion with every other truth;—we are brought directly to the conclusion, that every portion of knowledge, now possessed, every observed fact, every demonstrated principle, is a clew, which we hold by one end in the hand, and which is capable of guiding the faithful inquirer further and further into the inmost recesses of the labyrinth of Nature. Ages on ages *may* elapse, before it conduct the patient intellect to the wonders of science, to which it will eventually lead him; and perhaps with the next step he takes, he will reach the goal, and principles, destined to affect the condition of millions, beam in characters of light upon his understanding. What was, at once, more unexpected and

more obvious, than Newton's discovery of the nature of light? Every living being, since the creation of the world, had gazed on the rainbow; to none had the beautiful mystery revealed itself. And even the great philosopher himself, while dissecting the solar beam, and, as it were, untwisting the golden and silver threads that compose the ray of light, laid open but half its wonders. And who shall say, that to us, to whom, as we think, modern science has disclosed the residue, truths more wonderful than those now known, will not yet be revealed?

It is, therefore, by no means to be inferred, because the human mind has seemed to linger, for a long time, around certain results, as ultimate principles, that they and the principles closely connected with them, are not likely to be pushed much further; nor, on the other hand, does the intellect always require much time, to bring its noblest fruits to seeming perfection. It was, I suppose, about two thousand years, from the time when the peculiar properties of the magnet were first observed, before it became, through the means of those qualities, the pilot, which guided Columbus to the American continent. Before the invention of the compass could take full effect, it was necessary that some navigator should practically and boldly grasp the idea that the globe is round. The two truths are apparently without connexion; but, in their application to practice, they are intimately associated. Hobbes says, that Dr. Harvey, the illustrious discoverer of the circulation of the blood, is the only author of a great discovery, who ever lived to see it universally adopted. To the honor of subsequent science, this remark could not now, with equal truth, be made. Nor was Harvey, himself, without some painful experience of the obstacles arising from popular ignorance, against which truth sometimes forces its way to general acceptance. When he first proposed the beautiful doctrine, his practice fell off; people would not continue to trust their lives in the hands of such a dreamer. When it was firmly establish-

ed, and generally received, one of his opponents published a tract, *de circulo sanguinis Salomoneo*,* and tried to prove, from the twelfth chapter of Ecclesiastes, that the circulation of the blood was no secret, in the time of Solomon. The whole doctrine of the Reformation may be found in the writings of Wiclif; but neither he nor his age felt the importance of his principles, nor the consequences to which they led. Huss had studied the writings of Wiclif in manuscript, and was in no degree behind him, in the boldness with which he denounced the papal usurpations. But his voice was not heard beyond the mountains of Bohemia; he expired, in agony, at the stake, and his ashes were scattered upon the Rhine. A hundred years passed away. Luther, like an avenging angel, burst upon the world, and denounced the corruptions of the church, and rallied the host of the faithful, with a voice which might almost call up those ashes from their watery grave, and form and kindle them, again, into a living witness to the truth.

Thus Providence, which has ends innumerable to answer, in the conduct of the physical and intellectual, as of the moral, world, sometimes permits the great discoverers fully to enjoy their fame; sometimes, to catch but a glimpse of the extent of their achievements; and sometimes sends them, dejected and heart-broken, to the grave, unconscious of the importance of their own discoveries, and not merely undervalued by their contemporaries, but by themselves. It is plain. that Copernicus, like his great contemporary, Columbus, though fully conscious of the boldness and the novelty of his doctrine, saw but a part of the changes it was to effect in science. After harboring in his bosom, for long, long years, the conception of the solar system, he died, on the day of the appearance of his book from the press. The closing scene of his life, with a little help from the imagination, would furnish a noble subject for an artist. For thirty-five years, he has revolved and

* On the Circulation of the Blood, as known to Solomon.

matured, in his mind, his system of the heavens. A natural mildness of disposition, bordering on timidity, a reluctance to encounter controversy, and a dread of persecution, have led him to withhold his work from the press, and to make known his system but to a few confidential disciples and friends. At length, he draws near his end; he is seventy-three years of age, and he yields his work on 'The Revolutions of the Heavenly Orbs' to his friends, for publication. The day, at last, has come, on which it is to be ushered into the world. It is the twenty-fourth of May, 1543. On that day,—the effect, perhaps, of the intense excitement of his mind, operating upon an exhausted frame,—an effusion of blood brings him to the gates of the grave. His last hour has come; he lies, stretched upon the couch from which he will never rise, in his apartment at the Canonry at Frauenberg, in East Prussia. The beams of the setting sun glance through the Gothic windows of his chamber; near his bedside is the armillary sphere, which he has contrived, to represent his theory of the heavens; his picture, painted by himself, the amusement of his earlier years, hangs before him; beneath it, his astrolabe, and other imperfect astronomical instruments; and around him are gathered his sorrowing disciples. The door of the apartment opens; the eye of the departing sage is turned, to see who enters: it is a friend, who brings him the first printed copy of his immortal treatise. He knows that in that book he contradicts all that had ever been distinctly taught by former philosophers; he knows that he has rebelled against the sway of Ptolemy, which the scientific world had acknowledged for a thousand years; he knows that the popular mind will be shocked by his innovations; he knows that the attempt will be made to press even religion into the service against him; but he knows that his book is true. He is dying, but he leaves a glorious truth, as his dying bequest, to the world. He bids the friend, who has brought it, place himself between the window and his bedside, that the sun's rays may fall

upon the precious Volume, and he may behold it once, before his eye grows dim. He looks upon it, takes it in his hands, presses it to his breast, and expires. But no, he is not wholly gone! A smile lights up his dying countenance; a beam of returning intelligence kindles in his eye; his lips move; and the friend, who leans over him, can hear him faintly murmur the beautiful sentiments, which the Christian lyrist, of a later age, has so finely expressed in verse:—

"Ye golden lamps of heaven, farewell, with all your feeble light!
Farewell, thou ever-changing moon, pale empress of the night!
And thou, refulgent orb of day, in brighter flames arrayed,
My soul, which springs beyond thy sphere, no more demands thy aid:
Ye stars are but the shining dust of my divine abode,
The pavement of those heavenly courts, where I shall reign with God!"

So died the great Columbus of the heavens.* His doctrine, at first, for want of a general diffusion of knowledge, forced its way with difficulty against the deep-rooted prejudices of the age. Tycho Brahe attempted to restore the absurdities of the Ptolemaic system; but Kepler, with a sagacity which more than atones for all his strange fancies, laid hold of the theory of Copernicus, with a grasp of iron, and dragged it into repute. Galileo turned his telescope to the heavens, and observed the phases of Venus, which Copernicus boldly predicted must be discovered, as his theory required their appearance; and, lastly, Newton arose, like a glorious sun, scattering the mists of doubt and opposition, and ascended the heavens, full-orbed and cloudless, establishing, at once, his own renown and that of his predecessors, and crowned with the applauses of the world; but declaring, with that admirable modesty, which marked his character, "I do not know what I may appear to the world; but, to myself, I seem to have been only like a boy, playing on the seashore, and diverting myself, in finding now and then a pebble, or a prettier shell than ordinary, while the great ocean of truth lay all undiscovered before me."†

* Nicolai Copernici Vita. Opera Petri Gassendi, Tom. v. p. 451.

† Brewster's Life of Sir Isaac Newton, page 301.

But, whether the progress of any particular discovery, toward a general reception, be prompt or tardy, it is one of the laws of intellectual influence, as it is one of the great principles, on which we maintain, that the general diffusion of knowledge is favorable to the growth of science; that, whatsoever be the fortune of inventors and discoverers, the invention and discovery are immortal; the teacher dies in honor or neglect, but his doctrine survives. Fagots may consume his frame, but the truths he taught, like the spirit it enclosed, can never die. Partial and erroneous views may even retard his own mind, in the pursuit of a fruitful thought; but the errors of one age are the guides of the next; and the failure of one great mind but puts its successor on a different track, and teaches him to approach the object, from a new point of observation.

In estimating the effect of a popular system of education upon the growth of science, it is necessary to bear in mind a circumstance, in which the present age and that which preceded it are strongly discriminated from former periods; and that is, the vastly greater extent, to which science exists among men, who do not appear before the world as authors. Since the dawn of civilization on Egypt and Asia Minor, there never have been wanting individuals, sometimes many flourishing at the same time, who have made the most distinguished attainments in knowledge. Such, however, has been the condition of the world, that they formed a class by themselves. Their knowledge was transmitted in schools, often under strict injunctions of secrecy; or, if recorded in books, for want of the press, and owing to the constitution of society, it made but little impression on the mass of the community and the business of life. As far as there is any striking exception to this remark, it is in the *free states* of antiquity, in which, through the medium of the popular organization of the governments, and the necessity of constant appeals to the people, the cultivated intellect

was brought into close association with the understandings of the majority of men. This fact may perhaps go far to explain the astonishing energy and enduring power of the Grecian civilization, which remains, to this day, after all that has been said to explain it, one of the most extraordinary facts in the history of the human mind. But, from the period of the downfall of the Roman republic, and, more especially, after the establishment of the feudal system, the division of the community into four classes, namely, the landed aristocracy, or nobles and gentry; the spiritual aristocracy, or priesthood; the inhabitants of the cities; and the peasantry; (a division which has, in modern Europe, been considerably modified, in some countries more and in some less, but in none wholly obliterated,) the action and manifestation of knowledge were, till a comparatively recent period, almost monopolized by the two higher classes; and in their hands it assumed, in a great degree, a literary, by which I mean, a book, form. Such, of course, must ever, with reasonable qualifications, continue to be the case; and books will always be, in a great degree, the vehicle by which knowledge is to be communicated, preserved, and transmitted.

But it is impossible to overlook the fact,—it is one of the most characteristic features of the civilization of the age,—that this is far less *exclusively* the case, than at any former period. The community is filled with an incalculable amount of unwritten knowledge, of science which never will be committed to paper, by the active men who possess it, and which has been acquired, on the basis of a good education, by observation, experience, and the action of the mind itself. A hundred and fifty years ago, it is doubtful whether, out of the observatories and universities, there were ten men in Europe who could ascertain the longitude by lunar observation. At the present day, scarce a vessel sails to foreign lands, in the public or mercantile service, in which the process is not understood. In like manner, in our manufacturing establishments, in the construction

and direction of rail-roads and canals, on the improved farms throughout the country, there is possessed, embodied, and brought into action, a vast deal of useful knowledge, of which its possessors will never make a literary use, for the composition of a book, but which is daily employed, to the signal advantage of the country. Much of it is directly derived from a study of the great book of Nature, whose pages are written by the hand of God; and which, in no part of the civilized world, has been more faithfully or profitably studied, than in New England. The intelligent population of the country, furnished with the keys of knowledge at our institutions of education, have addressed themselves to the further acquisition of useful science,—to its acquisition at once, and application,—with a vigor, a diligence, a versatility, and a success, which are the admiration of the world.

Let it not be supposed, that I wish to disconnect this diffusive science from that which is recorded and propagated in books; to do this would be to reverse the error of former ages. It is the signal improvement of the present day, that the action and reaction of book-learning and general intelligence are so prompt, intense, and all-pervading. The moment a discovery is made, a principle demonstrated, a proposition advanced through the medium of the press, in any part of the world, it finds immediately a host, numberless as the sands of the sea, prepared to take it up, to canvass, confirm, refute, or pursue, it. At every waterfall, on the line of every canal and rail-road, in the counting-room of every factory and mercantile establishment, on the quarter-deck of every ship which navigates the high seas, on the farm of every intelligent husbandman, in the workshop of every skilful mechanic, at the desk of the schoolmaster, in the office of the lawyer, the study of the physician and clergyman, at the fireside of every man, who has had the elements of a good education, not less than in the professed retreats of learning, there is an intellect to seize, to weigh, and appropriate, the

suggestion, whether it belong to the world of science, of taste, or of morals.

In some countries, there may be more, and in some less, of this *latent* intellectual power; latent, I call it, in reference, not to its action on life, but to its display in books. In some countries, the books are in advance of the people, in others greatly behind them. In Europe, as compared with America, the advantage is in favor of the books. The restraint imposed upon the mind, in reference to all political questions, has had the effect of driving more than a proportion of the intellect of that part of the world into the cultivation of science and literature, as a profession; and if we were to judge merely from the character of a few great works published at the expense of the government, and the attainments of a few individuals, Italy and Austria would stand on a level with Great Britain and France. The great difference between nation and nation, in reference to knowledge, is, in fact, in no small degree, in this very distinction. In reference to the attainments of scholars and men of science by profession, of which some few are found in every civilized country, all nations may be considered as forming one intellectual republic; but in reference to the diffusion of knowledge among the people, its action on the character of nations, its fruitful influence on society, the most important differences exist between different countries.

III. There remains to be discussed the last topic of our address,—the influence of a general diffusion of knowledge on morals, a point, which, if it were debatable, would raise a question of portentous import; for, if the diffusion of knowledge is unfriendly to goodness, shall we take refuge in the reign of ignorance? What is the precise question, on which, in this connexion, rational scruples may be started, deserving a serious answer?

The merits of the case may, I believe, be stated somewhat as follows:—that there seems, in individuals, no fixed proportion between intellectual and moral growth.

Eminent talent and distinguished attainment are sometimes connected with obliquity of character. Of those who have reached the heights of speculative science, not all are entitled to the commendation bestowed on Sir William Jones,—that he was "learned, without pride, and not too wise to pray;" and one entire class of men of letters and science, the French philosophers of the last century, were, as a body, though by no means without honorable exceptions, notorious for a disbelief of revealed religion; an insensibility to the delicacies of moral restraint; a want of that purity of feeling and character, which we would gladly consider the inseparable attendant of intellectual cultivation. It is a question of deep interest, whether, from these facts, and others like them, any thing can be fairly deduced, unfavorable to the moral influence of a diffusion of knowledge.

No country in Europe had retained more of the feudal divisions, than France, before the Revolution. A partition of the orders of society, but little less rigid than the Oriental economy of *castes*, was kept up. Causes, which time would fail us to develope, had rendered the court and capital of France signally corrupt, during the last century. It is doubtful, whether, in a civilized state, the foundations of social morality were ever so totally subverted. It was by no means one of the least active causes of this corruption, that all connexion between the court and capital, and the higher ranks in general, on the one hand, and the people on the other, was cut off by the constitution of society, and the hopeless depression, degradation, and ignorance, of the mass of the people. Under these influences, the school of the encyclopedists was trained. They did not make, they found the corruption. They were reared in it. They grew up in the presence and under the patronage of a most dissolute court, surrounded by the atmosphere of an abandoned metropolis, without the constraint or the corrective of a wholesome public sentiment, emanating from an intelligent and virtuous population. The great

monitors of society were hushed. The pulpit, not over active, at that time, as a moral teacher in the Catholic Church in Europe, was struck dumb, for some of the highest dignitaries were stained with all the vices of the rest of their order, that of the nobility; and some of the most virtuous and eloquent of the prelates had been obliged to exhaust their talents, in panegyrics of the frail but royal dead. The press was mute, on every thing which touched the vices of the time. It was not then the diffusion of knowledge, from the philosophical circles of Paris, that corrupted France; it was the gross darkness of the provinces, and the deep degradation, every where, of the majority of the people, which left unrebuked the depravity of the capital. It was precisely a diffusion of knowledge that was wanted. And if, as I doubt not, France, at this time, is more virtuous (notwithstanding the demoralizing effects of the Revolution and its wars) than at any former period, it is owing to the diffusion of knowledge, which has followed the subversion of feudalism, and the regeneration of the provinces. Paris has ceased to be France. It has ceased to be possible that a dissolute court should give the tone of feeling to the entire kingdom; for an intelligent class of independent citizens and husbandmen has sprung up on the ruins of a decayed landed aristocracy, and the reformation of France is rapidly going on, in the elevation of the intellectual, and with it the political, social, and moral character of the people.

I do not deem it necessary to argue, at length, against any general inference from individual cases, in which intellectual eminence has been associated with moral depravity. The question concerns general influences and natural tendencies, and must be considered mainly in reference to the comparative effects of ignorance and knowledge on communities, nations, and ages. In this reference, nothing is more certain, than that the diffusion of knowledge is friendly to the benign influence of religion and morals. The illustrations of this great truth are so abundant, that I know not where to begin

nor where to end with them. Knowledge is the faithful ally both of natural and revealed religion. Natural religion is one grand deduction made by the enlightened understanding, from a faithful study of the great book of Nature; and the record of revealed religion, contained in the Bible, is not merely confirmed by the harmony, which the mind delights to trace between it and the "elder Scripture writ by God's own hand;" but Revelation, in all ages, has called to its aid the meditations and researches of pious and learned men; and, most assuredly, at every period, for one man of learning, superficial or profound, who has turned the weapons of science against religion or morals, hundreds have consecrated their labors to their defence. Christianity is revealed to *the mind* of man, in a peculiar sense. To what are its hopes, its sanctions, its precepts, addressed? to the physical or the intellectual portion of his nature; to the perishing or the immortal element? Is it on ignorance or on knowledge, that its evidences repose? Is it by ignorance or knowledge, that its sacred records are translated from the original tongues, into the thousands of languages, spoken in the world? and if, by perverted knowledge, it has sometimes been attacked, is it by ignorance or knowledge, that it has been and must be defended? What, but knowledge, is to prevent us, in short, from being borne down and carried away, by the overwhelming tide of fanaticism and delusion, put in motion by the moon-struck impostors of the day? Before we permit ourselves to be agitated with painful doubts, as to the connexion of a diffusion of knowledge with religion and morals, let us remember, that, in proportion to the ignorance of a community, is the ease with which their belief can be shaken, and their assent attained to the last specious delusion of the day, till you may finally get down to a degree of ignorance, on which reason and Scripture are alike lost; which is ready to receive Joe Smith as an inspired prophet, and Matthias as——but shame and horror forbid me to complete the sentence.

But this topic must be treated in a higher strain. The diffusion of knowledge is not merely favorable to religion and morals, but, in the last and highest analysis, they cannot be separated from each other. In the great prototype of our feeble ideas of perfection, the wise and the good are so blended together, that the absence of one would enfeeble and impair the other. There can be no real knowledge of truth, which does not tend to purify and elevate the affections. A little knowledge,—much knowledge,—may not, in individual cases, subdue the passions of a cold, corrupt, and selfish heart. But if knowledge will not do it, can it be done by the want of knowledge?

What is human knowledge? It is the cultivation and improvement of the spiritual principle in man. We are composed of two elements; the one, a little dust, caught up from the earth, to which we shall soon return; the other, a spark of that Divine Intelligence, in which and through which we bear the image of the great Creator. By knowledge, the wings of the intellect are spread: by ignorance, they are closed and palsied, and the physical passions are left to gain the ascendancy. Knowledge opens all the senses to the wonders of creation: ignorance seals them up, and leaves the animal propensities unbalanced by reflection, enthusiasm, and taste. To the ignorant man, the glorious pomp of day, the shining mysteries of night, the majestic ocean, the rushing storm, the plenty-bearing river, the salubrious breeze, the fertile field, the docile animal tribes, the broad, the various, the unexhausted, domain of Nature, are a mere outward pageant, poorly understood in their character and harmony, and prized only so far as they minister to the supply of sensual wants. How different the scene, to the man whose mind is stored with knowledge! For him, the mystery is unfolded, the veils lifted up, as one after another he turns the leaves of that great volume of creation, which is filled in every page with the characters of wisdom, power, and love; with lessons of truth the most exalted;

with images of unspeakable loveliness and wonder; arguments of Providence; food for meditation; themes of praise. One noble science sends him to the barren hills, and teaches him to survey their broken precipices. Where ignorance beheld nothing but a rough inorganic mass, instruction discerns the intelligible record of the primal convulsions of the world; the secrets of ages before man was; the landmarks of the elemental struggles and throes of what is now the terraqueous globe. Buried monsters, of which the races are now extinct, are dragged out of deep strata, dug out of eternal rocks, and brought almost to life, to bear witness to the power that created them. Before the admiring student of Nature has realized all the wonders of the elder world, thus, as it were, created again by science, another delightful instructress, with her microscope in her hand, bids him sit down, and learn at last to know the universe in which he lives; and contemplate the limbs, the motions, the circulations, of races of animals, disporting in *their* tempestuous ocean,—a drop of water. Then, while his whole soul is penetrated with admiration of the power which has filled with life, and motion, and sense, these all but non-existent atoms,—O, then, let the divinest of the Muses, let Astronomy approach, and take him by the hand; let her

> "Come, but keep her wonted state,
> With even step and musing gait,
> And looks commercing with the skies,
> Her rapt soul sitting in her eyes;"

let her lead him to the mount of observation; let her turn her heaven-piercing tube to the sparkling vault: through that, let him observe the serene star of evening, and see it transformed into a cloud-encompassed orb, a world of rugged mountains and stormy deeps; or behold the pale beams of Saturn, lost to the untaught observer amidst myriads of brighter stars, and see them expand into the broad disk of a noble planet, the seven attendant worlds, the wondrous rings, a mighty system in itself, borne at the rate of twenty-two

thousand miles an hour, on its broad pathway through the heavens; and then let him reflect, that our great solar system, of which Saturn and his stupendous retinue is but a small part, fills, itself, in the general structure of the universe, but the space of one fixed star; and that the Power, which filled the drop of water with millions of living beings, is present and active, throughout this illimitable creation! Yes, yes,

"The undevout astronomer *is* mad!"

But it is time to quit these sublime contemplations, and bring this address to a close. I may seem to have undertaken a superfluous labor, in sustaining the argument of this address. This Institution, consecrated to learning and piety; these academic festivities; this favoring audience, which bestows its countenance on our literary exercises; the presence of so many young men, embarking on the ocean of life, devoted to the great interests of the rational mind and immortal soul, bear witness for me, that the cause of education stands not here in need of champions. Let it be our pride, that it has never needed them, among the descendants of the Pilgrims; let it be our vow, that, by the blessing of Providence, it never shall need them, so long as there is a descendant of the Pilgrims to plead its worth. Yes, let the pride of military glory belong to foreign regions; let the refined corruptions of the older world attract the traveller to its splendid capitals; let a fervid sun ripen, for other states, the luxuries of a tropical clime. Let the schoolhouse and the church continue to be the boast of the New-England village; let the son of New England, whithersoever he may wander, leave that behind him, which shall make him homesick for his native land; let freedom, and knowledge, and morals, and religion, as they are our birthright, be the birthright of our children, to the end of time!

ON SUPERIOR AND POPULAR EDUCATION.*

GENTLEMEN OF THE ADELPHIC UNION,—I feel scarcely warranted, at this late hour, in taking up much of your time. The day belongs properly to those, who, having completed their academic course, have presented themselves upon the public stage, in the presence of kindred, friends, and a gratified audience, to be dismissed with collegiate honors, to the active duties of life, or to the more immediate preparation for its professional pursuits. I have scarce a right to take to myself any portion of the precious time, to which they have the first claim. Besides, I feel too deeply interested in the scene, as a spectator, to desire a more active part in the duties of the day. It recalls to me, fresh as yesterday, the time, now more than a quarter of a century past, when, like you, young gentlemen, who are about to take your degrees, I also stood upon the threshold of life, full of the hopes, the visions, the enthusiasm, of youth. These scholastic exercises, these learned tongues, these academic forms, touch a chord of sympathy in my bosom. Personally a stranger to most of those whom I have the honor to address, I feel as if, on literary ground, (and I am sure that no one, on this occasion, can expect me to occupy any other,) I may come as an acquaintance, as a friend; that I may even

"Claim kindred *there*, and have the claim allowed."

Nature seems to breathe peace, in concert with the character of the day; and, within these quiet valleys, shut out, by the perpetual hills, from the struggling world, she invites us, with her most soothing voice, to kind feeling, to cheerful discourse, and to calm thought.

* An Address delivered before the Adelphic Union Society of Williams College, on Commencement Day, August 16, 1837.

Nor are the historical recollections around us less animating and joyous. The pleasant village, where we are assembled, contains, within view of the spot where we stand, the site of Fort Hoosac, and, a mile or two east of us, stood Fort Massachusetts. The plough has passed over its rude lines; but what scenes of humble heroism and almost forgotten valor are associated with its name! It was the bulwark of the frontier, in the days of its infancy. The trembling mother, on the banks of the Connecticut, and in the heart of Worcester, clasped her babes closer, at an idle rumor, that Fort Massachusetts had given way. A hundred villages reposed in the strength of this stout guardian of New England's Thermopylæ, through which, for two generations, the French and Canadian foe strove to burst into the colonies. These are recollections of an early day. A few miles to the north of us lies that famous field of Bennington, to which, sixty years ago, this day and this hour, your fathers poured, from every village in the neighborhood, at the summons of Stark. While we meet together, to enjoy, in peace, the blessings for which they shed their blood, let us pour out upon the academic altar, one libation of grateful feeling to their memory.

But, though I would most willingly have continued a gratified listener, my engagements to you, gentlemen of the Adelphic Union, require, that I should trespass, for a short time, upon the patience of the audience, even at this late hour, with the utterance of some thoughts on that subject, which, upon an anniversary like this, may be regarded as the only peculiarly appropriate topic of discourse. I mean the subject of education. I know, it is a worn theme; as old as the first dawnings of imparted knowledge in the infancy of the world, and familiar to the contemplation of every succeeding age, even to the present time. But it still remains, for us, a topic of unabated and ever urgent interest. Although it is a subject on which philosophers, of every age, have largely discoursed, so far from being exhausted, it prob-

ably never presented itself to the human mind under so many new and important aspects, as at the present day, and, I may add, in these United States. I may safely appeal to every person who hears me, and who is in the habit of reflecting at all on the character of the age in which we live, whether, next to what directly concerns the eternal welfare of man, there is any subject, which he deems of more vital importance, than the great problem, how the whole people can be best educated. If the answer of the patriot and statesman, to this appeal, were doubtful, I might still more safely inquire of every considerate parent who hears me, whether the education of his children, their education for time and eternity, (for, as far as human means are concerned, these objects are intimately connected,) is not among the things which are first, last, and most anxiously, upon his mind.

It is not, however, my purpose, to engage in a general discussion of the subject. I could not do so, without repeating what I have advanced, on former similar occasions, and what I cannot deem of sufficient importance, to be said over again. Indeed, if I wished to express, most forcibly, the importance, the dignity, and the obligation of the great work of education, I believe it might best be done, by taking our stand, at once, on the simple enunciation of the spiritual and immortal nature of the thing to be educated,—the mind of man. Then, if we wished to give life and distinctness to the ideas of the importance of education, which result from this contemplation, we might do so by a single glance at the number and importance of the branches of knowledge, to which education furnishes the key. I might allude to the admirable properties of language, which it is the first business of education to impart; the wonders of the written and spoken tongue, as the instrument of thought,—wonders, which daily use scarcely divests of their almost miraculous character. I might glance at that which is usually next taught to the unfolding mind, the astonishing power of the science of numbers, with

which, on the one hand, we regulate the humblest details of domestic economy, and, on the other, compute the swiftness of the solar beam, and survey and as it were stake out, from constellation to constellation, the great rail-road of the heavens, on which the comet comes blazing upward from the depths of the universe. I might proceed with the branches of knowledge to which education introduces us, and ask of geography, to marshal before us the living nations; and of history, to rouse the generations of the elder world, from their pompous mausoleums or humble graves, to rehearse their fortunes. I might call on natural science, to open the volumes in which she has not merely written down the names, the forms, and the qualities, of the various subjects of the animal, vegetable, and mineral, world, now in existence,—the vast census, if I may so express it, of the three kingdoms of Nature; but where she has also recorded the catalogues of her perished children, races of the animal and vegetable world, buried beneath the everlasting rocks. The discoveries recently made in the science of geology are of a truly wonderful character. Winged creatures, twenty feet in height, whose footsteps have lately been discovered, imprinted in sandstone, on the banks of Connecticut River; enormous mammoths and mastodons, of which no living type has existed since the flood, brought to light from blocks of Siberian ice, or dug up in the morasses of our own continent; petrified skeletons of crocodiles and megatheria, seventy feet in length, covered with scales like the armadillo, and which for ages on ages have been extinct; have, by the creative power of educated mind, been made to start, as it were, out of the solid rock. Sandstone and gypsum have oped their ponderous and marble jaws, and a host of monstrous forms have risen into day, the recovered monuments of a world of lost giants.

The description which Professor Buckland has given us of the fossil plants, found in the coal strata at Swina, near Prague, in Bohemia, is one of the most instruc-

tive and beautiful, to be found in the whole range of science. He speaks as an eyewitness. "The most elaborate imitations of living foliage, upon the painted ceilings of Italian palaces, bear no comparison with the beauteous profusion of extinct vegetable forms, with which the galleries of these instructive coal-mines are overhung. The roof is covered, as with a canopy of gorgeous tapestry, enriched with festoons of most graceful foliage, flung, in wild, irregular profusion, over every portion of its surface. The effect is heightened by the contrast of the coal-black color of these vegetables with the light groundwork of the rock to which they are attached. The spectator feels himself transported, as if by enchantment, into the forests of another world; he beholds trees, of forms and characters now unknown upon the surface of the earth, presented to his senses, almost in the beauty and vigor of their primeval life; their scaly stems and bending branches, with their delicate apparatus of foliage, are all spread forth before him; little impaired by the lapse of countless ages, and bearing faithful records of extinct systems of vegetation, which began and terminated in times, of which these relics are the infallible historians."*

Nor is the account given by Cuvier, of his discoveries of fossil remains of animals, less striking. It is owing more, perhaps, to the sagacity of this philosopher, than to that of any other individual, that our views of a primitive world have assumed the form of a science. The gypsum quarries, in the neighborhood of Paris, abound with fossil bones. The museums and cabinets in that city were filled with them; but no attempt had been made to arrange them into forms, or give them the names of the particular animals to which they belonged. A cursory survey satisfied Cuvier, that many of them belonged to races no longer in existence. "I at length found myself," says he, "as if placed in a charnel-house, surrounded by mutilated fragments of

* Buckland's Bridgewater Treatise, Vol. I. pp. 344, 345.

many hundred skeletons, of more than twenty kinds of animals, piled confusedly around me; the task assigned me was, to restore them all to their original position. At the voice of comparative anatomy, every bone and fragment of a bone resumed its place."*

But leaving, with these transient glances, all attempt to magnify the work of education, by pointing out the astonishing results to which it guides the well-trained mind, a much shorter method might be pursued, with one who needed to be impressed with its importance. I would take such a one to a place of instruction, to a school, yes, to a child's school, (for there is no step in the process more important than the first,) and I would say, in those faint sparks of intelligence, just brightening over the rudiments of learning, you behold the germ of so many rational and immortal spirits. In a few years, you and I, and all now on the stage, shall have passed away, and there, on those little seats, primer in hand, are arranged our successors. Yes; when the volume of natural science, and Nature with it, shall have vanished; when the longest periods of human history shall have run together, to a point; when the loud, clear voices of genius, and the multitudinous tongues of nations, shall alike be hushed, forever, those infant children will have ripened into immortal beings, looking back, from the mansions of eternity, with joy or sorrow, on the direction given to their intellectual and moral natures, in the dawn of their existence! If there is any one not deeply impressed, by this single reflection, with the importance of education, he is beyond the reach of any thing that can be urged, by way either of illustration or argument.

What, then, is the business of education?

It is to assist the growth of our spiritual nature; to

* This sentence is given, as it appears in Dr. Buckland's Bridgewater Treatise, Vol. I. p. 72, where *Cuvier*, *Ossemens fossiles*, *Tom.* III. p. 34, edition 1812, is cited. It reads somewhat differently in the original, in the edition of 1825, Tom. II. part 2, p. 284. See also Griffith's Abridgement of Cuvier, Vol. I. p. 110.

dispose of the circumstances that affect it, in such a way, as best to promote the harmonious developement of all the faculties. The mind of man, like his body, has its laws of growth, belonging to the constitution which the Creator has given it; mysterious and faintly apprehended, in their inner nature, but not imperfectly visible, in their outward working. In the operation of these laws, as a certain kind of aliment, clothing, and exercise, are most favorable to the developement of the natural organs and the health of the physical man, so a certain course of discipline and instruction is most favorable to the well-proportioned formation and healthy action of the various mental powers, and of the whole intellectual nature.

How much, in the aggregate, has been and daily is effected, by education, in the most comprehensive sense of the word, may be satisfactorily estimated, by any one who will compare together the attainments of men, in a barbarous and highly civilized state. I could not enter into this comparison, without passing the limits of this occasion; but, without an enumeration of particulars, it will occur to every one who hears me, that the difference, between the best specimens of educated, and the worst of uneducated, man, is almost as great, as that between different orders of being.

Assembled, as we are, under the auspices of a highly-respected collegiate institution, it is obvious to remark, that there are two offices to be performed by education, of harmonious character and tendency, but of different sphere and mode of operation. One regards the discipline and training of mind to the highest point of intellectual excellence, and the other regards the diffusion of useful knowledge among the community at large, and the consequent elevation of the general character.

I. With respect to the first-named view of education, it is an inquiry well calculated to stir the curiosity of the thoughtful student of the nature of the human mind, whether it be possible, by the wisest system of education, most faithfully applied, to produce higher degrees

of intellectual power and excellence, than have ever been witnessed among men. We are accustomed to think that there have appeared individuals, who have carried our common nature to the highest point of human perfection; and it may seem presumptuous, to express the opinion that it can be possible, by any agency of means which can be planned out and put in operation, to form minds superior to some of those, which, from time to time, have commanded the admiration of the world. It may even seem idle, in connexion with education, to speak at all of such minds; since, in tracing their personal history, it is often found, that, so far from owing their eminence over the rest of mankind to superior advantages of instruction, they were born and reared in want, and became great by the power of genius, unaided by favorable circumstances. I do not now recollect one, among the master minds of our race, for whom a kind and judicious father would have prescribed, from first to last, that course of education and life, which, as the event proved, was prescribed by Providence.

Homer, the father of poetry, the one bard, to whom all aftertimes have accorded the first place, was a wandering minstrel, in a semi-barbarous age, perhaps, a blind mendicant. Who would have thought, that the wisest of heathen* should have been a poor, barefooted soldier; the standing butt, on the Athenian stage, of the most tremendous of satirists;† the victim of an untameable shrew; sacrificed, at last, to a tyranny, as base as it was cruel? Or, who would have predicted, that the prince of Grecian eloquence‡ should have been found in a stammering orphan, of feeble lungs and ungainly carriage, deprived of education by avaricious guardians, and condemned to struggle, for his life, amidst the infuriated contests of rival political factions? The greatest minds of Rome, so far from being placed in circumstances, seemingly favorable to their forma-

* Socrates. † Aristophanes. ‡ Demosthenes.

tion, lived, almost all of them, in exceedingly critical, perilous, and degenerate, days; many of them under a despotism so frightful, that one would think it must have produced a general intellectual catalepsy.

If we look to the modern world, how few of the greatest minds seem to have been trained under circumstances, which would have been deemed, beforehand, friendly to the improvement of genius! Dante was tossed, by the stormy feuds of the Italian republics, from city to city, banished, and sentenced to be burned alive, if found in the land which he has immortalized by his fame. The madhouse of St. Anne was the conservatory in which Tasso's genius ripened. Columbus was, for years, an all but heart-broken suitor to royal stocks and stones. Luther, at the age when the permanent bias is usually given to the mind, was the shorn and sleek inmate of a monk's cell. Of the great men which form the glory of English literature, not one, I think, was so situated, as to enjoy the best advantages for education, which his country, at the time, afforded; least of all was this the case with the greatest of them, —Shakspeare. Not one of the most illustrious intellects, from Homer down,—the giant minds, who, in the language of Machiavelli, rise above the level of their fellow-men, and stretch out their hands to each other, across the interval of ages, transmitting to each succeeding generation, the torch of science, poetry, and art,—not one of them, taking all things together, was placed even in as favorable circumstances as the times admitted, for the training of his faculties.

I readily admit, that minds of the first order furnish no rule for the average of intellect; and I can well conceive, that they may, in the inscrutable connexion of cause and effect, in some cases, have owed a part of their power and eminence to the operation of those seemingly untoward circumstances, against which human prudence would, if possible, have guarded them. But I hope it will not be deemed rash, to say, that I can imagine that each and all of these great men, to

whom I have alluded, might, under more favorable influences, have been greater, wiser, and better. With a reverence, as deep as honesty or manliness permits, for the master geniuses of our race,—a reverence nourished by the fond and never intermitted study of their works,—I may say that I catch, from this very study of their writings and characters, a conception, that, high as they rose, they might have risen higher. I can sometimes behold the soil of the world upon their snow-white robes, and the rust of human passion upon the glittering edge of their wit. It was long ago said by Horace that the good Homer sometimes nods; and Shakspeare, the most brilliant example, unquestionably, of a triumph over the defects of education, mental and moral, too often exhibits traces of both. As he floats on eagle's wings, along what he nobly calls "the brightest heaven of invention," he is sometimes borne by an unchastened taste into a misty region, where the understanding endeavors in vain to follow him; and sometimes, as he skims with the swallow's ease and swiftness along the ground, too confident of his power to soar, when he will, up to the rosy gates of the morning, he stoops, and stoops, and stoops, till the tips of his graceful pinions are sadly daggled in the mire.

If there is any justice in these reflections, it may be admitted, that the most eminent minds might, by a happier course of life and education, have been redeemed from their faults, and have attained a higher degree of excellence. If this be granted, what may not reasonably be expected, from a great increase in the means, and improvement in the methods, of education; from the consequent increase in the number of minds submitted to its action; from the progress of general intelligence; the discovery of new truths and facts, and the splendid generalizations built upon them; from the purer tone of public sentiment, and higher standard of morals, which cannot fail to result from the joint operation of the social, intellectual, and religious, influences now at work? Under the action of these causes, daily grow-

ing more intense, it seems to me not improbable, that some minds, as happily endowed by Nature as any that have yet appeared, will arise, in circumstances more favorable to the fullest developement and highest cultivation of their powers.

I am aware that it is a prevalent notion, that, to some efforts of genius, an advanced state of cultivation is unfriendly; that the infancy of science is more congenial with poetry; and that, in general, the period of critical learning is unfavorable to the developement of strongly-marked original talent. I am inclined, however, to believe this a mistaken opinion; an erroneous inference from facts that may otherwise be explained. If all that is meant be, that the character of poetical composition will vary with the state of civilization and the general intellectual character of the age, it is, of course, strictly true. In conditions of the world so different, as that of Greece in the heroic period, of the Augustan age of Rome, that of Italy in the middle ages, and of the time of the Commonwealth, in England, it must be expected that poetry and every other manifestation of mind will exhibit different forms; as we see they have done in Homer, Virgil, Dante, and Milton. But I deem the notion, that the first age was necessarily the best, to be a mere prejudice; and the idea that a partially improved age and a limited degree of knowledge are, in themselves and essentially, more favorable to the exercise of original genius, in any form, appears to me to be a proposition as degrading as it is unsound.

On the contrary, I believe that truth is the great inspirer; the knowledge of truth the aliment and the instrument of mind, the material of thought, feeling, and fancy. I do not mean that there is no beauty, in poetical language founded on scientific error; that it is not, for instance, consistent with poetry, to speak of the rising sun or the arch of heaven. Poetry delights in these sensible images and assimilations of ideas, in themselves distinct. From the imperfection of human language,

it will perhaps always be necessary to describe many things in the material, and still more in the moral and metaphysical, world, under similitudes which fall greatly beneath their reality:

Thus, in Shakspeare,

> ——"the floor of heaven
> Is thick inlaid with patines of bright gold."

In Spenser's 'Faerie Queene,'

> "The sacred fire, which burneth mightily
> In living breasts, was kindled first above,
> Among the eternal spheres and lampy heavens."

In 'Paradise Lost,' the moon divides her empire

> "With thousand thousand stars, that then appeared
> Spangling the universe."

Now, though these images, separately weighed, at the present day, may seem beneath the dignity of the subject to which they are applied, they are poetical and pleasing, (with the exception, possibly, of *lampy*;) nor do I know, that, in any state of science, however advanced, such language will cease to please.

But the point I maintain is this; that, as knowledge extends, the range of all imagery is enlarged, poetical language is drawn from a wider circle, and, what is far more important, that the conception kindles by the contemplation of higher objects.

Let us illustrate this point, still further, in reference to the effect on poetry of the sublime discoveries of modern astronomy. The ancients, as we all know, formed but humble conceptions of the material universe. The earth was the centre; the sun, moon, and five planets, were shining bodies, revolving about it, to give it light, and the stars were luminaries, hung up as lamps in a vaulted sky. This philosophy not only lies at the foundation of the imagery, under which Homer represents the heavens, but it prevailed so long, and falls in so entirely with the impressions made upon the eye, that it has given a character to the traditionary language of poetry, even to the present day. Shakspeare, and

Spenser, and Milton, as we have just seen, in this respect, draw their images from the same source as Virgil, Homer, and Hesiod.

Now I cannot but think, that, when the sublime discoveries of modern astronomy shall have become as thoroughly wrought into the vocabulary and the intelligence of the community, as the humble and erroneous conceptions of the ancients, the great and creative minds will derive from them a vastly grander range of poetical illustration. I cannot but think, that, by the study of this one science alone, thought, speech, and literature, will be wonderfully exalted. This is not, in reference to poetry, a mere matter of poetical imagery. The ideas formed of Divine wisdom and power, of infinite space, of stupendous magnitude and force, and of the grandeur and harmony of the material universe, are among the highest materials of thought, and the most prolific elements of poetical conception. For this reason, in the same proportion in which the apparent circuit of the heavens has been enlarged, and the science of astronomy extended, by the telescope, the province of imagination and thought must be immeasurably extended, also. The soul becomes great, by the habitual contemplation of great objects. As the discovery of a new continent upon the surface of the globe, by Columbus, gave a most powerful impulse to the minds of men, in every department, it is impossible that the discovery of worlds and system of worlds, in the immensity of space, should not wonderfully quicken the well-instructed genius. As the ambition, the avarice, the adventure, the legion host of human passions, rushed out from the old world upon the new, so the fancy must wing its way, with unwonted boldness, into the new-found universe,

"*Beyond* the solar walk or milky way."

In 'Paradise Lost,' there is a struggle between the old and new philosophy. The telescope was known, but had not yet revolutionized the science of astronomy. Even Lord Bacon did not adopt the Copernican system,

and Galileo's wonderful instrument had produced scarce any result, beyond a more distinct conception of the magnitudes of the bodies, which compose the solar system. But it is pleasing to remark, with what promptness Milton seizes upon this new topic of poetical illustration. In his very first description of the arch-fiend, we are told of

> —— "his ponderous shield,
> Ethereal temper, massy, large, and round,
> Behind him cast; the broad circumference
> Hung on his shoulders, like the moon, whose orb,
> Through optic glass, the Tuscan artist views,
> At evening from the top of Fesolé,
> Or in Valdarno, to descry new lands,
> Rivers, or mountains, in her spotty globe."

Grand and sublime as is this imagery, it is borrowed from the lowest order of the wonders unfolded by the telescope. I cannot but think, if the whole circle of modern astronomy had been disclosed to the mind of Milton, that it would have filled his soul with still brighter visions. Could he have learned, from the lips of its great discoverer, the organic law which regulates the entire motions of the heavens; could he have witnessed the predicted return of a comet, and been taught, that, of these mysterious bodies, seven millions are supposed to run their wild career within the orbit of the planet Uranus; and that, by estimation, one hundred millions of stars, each probably the centre of a system as vast as our own,—multitudes of them combined into mighty systems of suns wondrously complicated with each other,—are distributed throughout space, would these stupendous views have been lost on his mind? I can never believe that *truth*, the great quickener and inspirer, revealed in such majestic glimpses, would have fallen inoperative on such an intellect. He would have awaked to a new existence, in the light of such a philosophy. Escaping from the wholly false and the partly false, "the utter and the middle darkness" of the Ptolemaic system, he would have felt the "sovereign vital lamp" of pure science, in his inmost soul. He would have

borrowed from La Place the wings of the boldest analysis, and would have flown to the uttermost parts of creation, where he could have seen through the telescope, the bands of Orion loosened, and the gems of his glittering belt blazing out into empyreal suns, while crowded galaxies, "powdered with stars," rushed asunder into illimitable systems. He would have soared with the Herschels, father and son, to the outer regions of space, and drawn, from every part of the Newtonian philosophy, new ornaments for his immortal verse.

But, sublime and inspiring as are these glimpses, imparted to us by modern science, of the upper heavens, we have much reason to think that they are *but* glimpses; that they awaken but faint conceptions of a glorious reality, as yet unimagined. We do literally but look through a glass, darkly, at these myriads of worlds. The remark of Newton, that his sublime discoveries seemed to him but as so many pebbles or shells, picked up on the shore of the great undiscovered ocean of truth, is well calculated to make our hearts burn within us. It may hereafter appear, that size, motion, light, and heat, are the lowest attributes of the heavenly bodies; that they are the abodes of mind. All profane literature is pervaded with the sentiment, that the heavenly bodies are the seats of orders of intelligence, kindred or superior to our own; and the Scriptures tell us, how the morning stars sang together, and the sons of God shouted for joy. The united testimony of poetry and inspiration may well be believed:

> "There 's not the smallest orb that thou behold'st
> But, in his motion, like an angel sings,
> Still quiring to the young-eyed cherubins,
> Such harmony is in immortal souls:
> But, while this muddy vesture of decay
> Doth grossly close it in, we cannot hear it."

It may be, that the laws of the material universe, gravitation itself, may be resolved into the intelligent action of the minds, by which it is inhabited and con-

trolled,—empowered to this high function, by the supreme intellect. It may be, that, at some advanced stage of human science, the contemplative and pious genius will be enabled to lift the veil, which now hangs between spirit and sense. An intense desire to pass this barrier characterizes the boldest efforts of creative mind, in the present state of our knowledge. Should it ever be broken down; should mortal but living man ever penetrate that mysterious temple of the Infinite, in whose vestibule the purest offerings of the rapt soul have ever been made,—philosophy, poetry, art, eloquence, and music, will speak with new voices; and all that has hitherto charmed the taste, or satisfied the reason, or stirred the depths of the heart, will be as nursery tales.

If such an anticipation ever be realized, it will be through the joint influence of intellectual and moral culture, diffused by education, till a new mental atmosphere is created. It is painful to reflect, that, of the few great minds, to whom the superiority over all others is conceded, one half, at least, lived in the darkness of heathenism, and in a very imperfect state of civilization.

Not a ray of pure spiritual illumination shines through the sweet visions of the Father of Poetry.* The light of his genius, like that of the moon, as he describes it in the eighth Iliad,† is serene, transparent, and heavenly fair; it streams into the deepest glades, and settles on the mountain tops, of the material and social world; but, for all that concerns the spiritual nature, it is cold, watery, and unquickening. The great test of the elevation of the poet's mind, and of the refinement of the age in which he lives, is the distinctness, power, and purity, with which he conceives the spiritual world. In all else, he may be the observer, the recorder, the painter; but, in this dread sphere, he must assume the province, which his name imports; he must be the *maker:*

* Homer.

† Homer's Iliad, VIII. 551.

creating his own spiritual world by the highest action of his mind, upon all the external and internal materials of thought. If ever there was a poetical vision, calculated, not to purify and to exalt, but to abase and to sadden, it is the visit of Ulysses to the lower regions.* The ghosts of the illustrious departed are drawn before him, by the reeking fumes of the recent sacrifice; and the hero stands guard, with his drawn sword, to drive away the shade of his own mother from the gory trench, over which she hovers, hankering after the raw blood. Does it require an essay on the laws of the human mind, to show that the intellect, which contemplates the great mystery of our being, under this ghastly and frivolous imagery, has never been born to a spiritual life, nor caught a glimpse of the highest heaven of poetry? Virgil's spiritual world was not essentially superior to Homer's; but the Roman poet lived in a civilized age, and his visions of the departed are marked with a decorum and grace, which form the appropriate counterpart of the Homeric roughness.

In Dante, for the first time in an uninspired bard, the dawn of a spiritual day breaks upon us. Although the shadows of superstition rest upon him, yet the strains of the prophets were in his ears, and the light of Divine truth, strong though clouded, was in his soul. As we stand with him on the threshold of the world of sorrows, and read the awful inscription over the portal,† a chill, from the dark valley of the shadow of death, comes over the heart. The compass of poetry contains no image, which surpasses this dismal inscription, in solemn grandeur; nor is there, any where, a more delicious strain of tender poetic beauty, than that of the distant vesper bell, which seems to mourn for the departing day, as it is heard by the traveller just leaving his home.‡ But

* Odyssey, XI.

† "All hope abandon, ye who enter here."—*Dell' Inferno, Canto III.*

‡ Del Purgatorio, Canto VIII.

Dante lived in an age, when Christianity, if I may so speak, was paganized. Much of his poem, substance as well as ornament, is heathen. Too much of his inspiration is drawn from the stormy passions of life. The warmth with which he glowed is too often the kindling of scorn and indignation, burning under a sense of intolerable wrong. The holiest muse may string his lyre, but it is too often the incensed partisan that sweeps the strings. The divine comedy, as his wonderful work is called, is much of it mere mortal satire.

In 'Paradise Lost,' we feel as if we were admitted to the outer courts of the Infinite. In that all-glorious temple of genius inspired by truth, we catch the full diapason of the heavenly organ. With its first choral swell, the soul is lifted from the earth. In the 'Divina Commedia,' the man, the Florentine, the exiled Ghibelline, stands out, from first to last, breathing defiance and revenge. Milton, in some of his prose works, betrays the partisan also; but in his poetry, we see him in the white robes of the minstrel, with upturned though sightless eyes, rapt in meditation at the feet of the heavenly muse. Dante, in his dark vision, descends to the depths of the world of perdition, and, homeless fugitive as he is, drags his proud and prosperous enemies down with him, and buries them, doubly destroyed, in the flaming sepulchres of the lowest hell.* Milton, on the other hand, seems almost to have purged off the dross of humanity. Blind, poor, friendless, in solitude and sorrow, with quite as much reason as his Italian rival to repine at his fortune and war against mankind, how calm and unimpassioned is he, in all that concerns his own personality! He deemed too highly of his Divine gift, to make it the instrument of immortalizing his hatreds. One cry, alone, of sorrow at his blindness, one pathetic lamentation, over the evil days on which he had fallen, bursts from his full heart.† There is not a flash

* Dell' Inferno, Cantos IX. X.

† Paradise Lost, Books III. and VII. at the beginning.

of human wrath in all his pictures of wo. Hating nothing but evil spirits, in the childlike simplicity of his heart, his pure hands undefiled with the pitch of the political intrigues in which he had lived, he breathes forth his inexpressibly majestic strains, the poetry not so much of earth as of heaven.

Can it be hoped, that, under the operation of the influences to which we have alluded, any thing superior to 'Paradise Lost' will ever be produced by man? It requires a courageous faith in general principles, to believe it. I dare not call it a probable event; but can we say it is impossible? If, out of the wretched intellectual and moral elements of the Commonwealth in England, imparting, as they did, at times, too much of their contagion to Milton's mind, a poem like 'Paradise Lost' could spring forth, shall no corresponding fruit of excellence be produced, when knowledge shall be universally diffused, society enlightened, elevated, and equalized; and the standard of moral and religious principle, in public and private affairs, raised far above its present level? A continued progress in the intellectual world is consistent with all that we know of the laws that govern it, and with all experience. A presentiment of it lies deep in the soul of man, spark as it is of the Divine nature. The craving after excellence, the thirst for truth and beauty, has never been, never can be, fully slaked at the fountains which have flowed beneath the touch of the enchanter's wand. Man listens to the heavenly strain, and straightway becomes desirous of still loftier melodies. It has nourished and strengthened, instead of satiating, his taste. Fed by the Divine aliment, he can enjoy more, he can conceive more, he can himself perform more.

Should a poet, of loftier muse than Milton, hereafter appear, or, to speak more reverently, when the Milton of a better age shall arise, there is yet remaining one subject worthy his powers,—the counterpart of 'Paradise Lost.' In the conception of this subject, by Milton, then mature in the experience of his great poem,

we have the highest human judgement, that this is the one remaining theme. In his uncompleted attempt to achieve it, we have the greatest cause for the doubt, whether it be not beyond the grasp of the human mind, in its present state of cultivation. But I am unwilling to think that this theme, immeasurably the grandest which can be contemplated by the mind of man, will never receive a poetical illustration, proportioned to its sublimity. It seems to me impossible, that the time, doubtless far distant, should not eventually arrive, when another Milton, divorcing his heart from the delights of life; purifying his bosom from its angry and its selfish passions; relieved, by happier fortunes, from care and sorrow; pluming the wings of his spirit in solitude, by abstinence and prayer, will address himself to this only remaining theme of a great Christian epic.*

II. The fulfilment of anticipations like these, both as to time and manner, is of course wrapt up in the uncertain future. The province of education, in which we may all labor, and in which the effects to be immediately hoped for stand in some assignable proportion to the means employed, is the improvement of the minds of the mass of the people. This is the second question to which I alluded, in the commencement of my remarks. May not a great increase be made, in the number of those who receive a good education, and may not the education of all be made much better? I mean, much more thorough and extensive, as to the knowledge acquired, and much more efficacious and productive, as to the training of the mind? These questions, I am persuaded, must be answered in the affirmative. It is

* Although I do not at present recollect, that the tendency of the progress of knowledge to produce higher displays of genius has been before distinctly maintained, to the same extent, the doctrine appears to me to be supported by very high authorities. Longinus, in the ninth chapter of his Treatise on the Sublime, (Ed. Mori, p. 42,) lays down principles, leading directly to this result; and Cicero, in his Orator, § 34, points still more plainly to the same conclusion, and in reference to the science from which the illustration is drawn on page 261. See also the Spectator, No. 633.

at once melancholy and fearful to reflect, how much intellect is daily perishing, from inaction; or worse than perishing, from the false direction given it in the morning of life.

I fear, we do not yet fully realize what is meant, when we speak of the improvement of the mind. I fear, it is not yet enough considered, by legislators or parents, that there dwells, in every rational being, an intellect endowed with a portion of the faculties, which form the glory and happiness of our nature, and which, developed and exerted, are the source of all that makes man to differ, essentially, from the clod of the valley. Neglected and uncultivated, deprived of its appropriate nourishment, denied the discipline which is necessary to its healthy growth, this Divine principle all but expires, and the man, whom it was sent to enlighten, sinks down, before his natural death, to his kindred dust. Trained and instructed, strengthened by wise discipline and guided by pure principle, it ripens into an intelligence but a little lower than the angels. This is the work of education. The early years of life are the period when it must commonly be obtained; and, if this opportunity is lost, it is too often a loss which nothing can repair.

It is usual, to compare the culture of the mind to the culture of the earth. If the husbandman relax his labors, and his field be left untilled, this year or the next, although a crop or two be lost, the evil may be remedied. The land, with its productive qualities, remains. If not ploughed and planted, this year, it may be, the year after. But if the mind be wholly neglected, during the period most proper for its cultivation, if it be suffered to remain dark and uninformed, its vital power perishes; for all the purposes of an intellectual nature, it is lost. It is as if an earthquake had swallowed up the uncultivated fallows; or as if a swollen river had washed away, not merely the standing crop, but the bank on which it was growing. When the time for education has gone by, the man must, in ordinary ca-

ses, be launched upon the world a benighted being, scarcely elevated above the beasts that perish; and all that he could have been and done, for society and for himself, is wholly lost.

Although this utter sacrifice of the intellectual nature is rarely made, in this part of the Country, I fear there exists, even here, a woful waste of mental power, through neglect of education. Taking our population as a whole, I fear that there is not nearly time enough passed at school; that many of those, employed in the business of instruction, are incompetent to the work; and that our best teachers are not sufficiently furnished with literary apparatus, particularly with school libraries. If these defects could be supplied, I believe a few years would witness a wonderful effect upon the community; that an impulse, not easily conceived beforehand, would be given to individual and social character.

I am strongly convinced, that it behoves our ancient Commonwealth to look anxiously to this subject, if she wishes to maintain her honorable standing, in this Union of States. I am not grieved, when I behold, on the map, the enormous dimensions of some of the new States in the West, as contrasted with the narrow little strip which comprises the good old Bay State. They are bone of our bone and flesh of our flesh; their welfare is closely interwoven with ours; in every thing that can promote their solid prosperity, I bid them God speed, with all my heart. I hear, without discontent, the astonishing accounts of their fertility; that their vast prairies are covered with more feet of rich vegetable mould, than our soil, on an average, can boast of inches; and I can bear to hear it said, without envy, that their Missouri and Mississippi, the mighty Abana and Pharpar of the West, are better than all the waters of our poor New-England Israel.

All this, I can bear; but I cannot bear that our beloved native State, whose corner-stone was laid upon an intellectual and moral basis, should deprive itself, by its own neglect, of the great counterpoise to these

physical advantages. Give the sons of Massachusetts, small and comparatively unfertile as she is, the means of a good education, and they will stand against the world. Give me the means of educating my children, and I will not exchange its thirstiest sands nor its barest peak, for the most fertile spot on earth, deprived of those blessings. I would rather occupy the bleakest nook of the mountain that towers above us,* with the wild wolf and the rattlesnake for my nearest neighbors, with a village school, well kept, at the bottom of the hill, than dwell in a paradise of fertility, if I must bring up my children in lazy, pampered, self-sufficient ignorance. A man may protect himself against the rattle and the venom; but, if he unnecessarily leaves the mind of his offspring a prey to ignorance, and the vices that too often follow in its train, he may find, too late for remedy,

> "How sharper than a serpent's tooth it is,
> To have a thankless child."

A thankless child! No, I will not wrong him. He may be any thing else that is bad, but he cannot be a *thankless* child. What has he to be thankful for? No! The man, who unnecessarily deprives his son of education, and thus knowingly trains him up in the way he should not go, may have a perverse, an intractable, a prodigal, child, one who will bring down, ay, drag down, his gray hairs with sorrow to the grave, but a thankless child he cannot have.

As I have said, I think this matter must be looked to. If the all-important duty of training the mental powers of the young is intrusted to the cheapest hand that can be hired to do the work; to one who is barely able to pass a nominal examination, by a committee sometimes more ignorant than himself, in the *modicum* of learning prescribed by law; and slender as the privilege of such instruction is, if it be enjoyed by our children but for ten or twelve weeks in the year, as is the

* Saddle Mountain, between Williamstown and Adams.

case in too many towns in the Commonwealth, it is plain to see, that they are deprived of the best part of their birthright. I know it is said, that these few weeks, in the depth of Winter, are all of his children's time that the frugal husbandman can spare. But can it be so? Can the labors of the field, or any other labors, be so hotly pressed among us, that ten or twelve weeks are all the time, for which the labor of the youth of both sexes can be dispensed with, for five or six hours a day? I speak with diffidence on the subject, but such, I apprehend, cannot be the case. I cannot but think that a majority of the citizens of Massachusetts, of all pursuits and callings, might, without the least detriment to their interests, send their children steadily to a good school, seven months in the year, and more or less of the time, the other five. Without detriment, did I say? Nay, with incalculable advantage to their children, to themselves, and to the State.

It would be more rational to talk about not affording seed-corn, than to talk about not affording our children as much of their time as is necessary for their education. What! shall a man plant his field, and allow his child's intellect to run to weeds? It would be as wise to eat up all the wheat, and sow the husks and the chaff for next year's crop, as, on a principle of thrift, to sow ignorance and its attendant helplessness and prejudices in your children's minds, and expect to reap an honorable and a happy manhood. It would be better husbandry, to go, in the Summer, and clatter with a hoe in the bare gravel, where nothing was ever sown but the feathered seed of the Canada thistle, which the west wind drops from its sweeping wings, and come back, in Autumn, and expect to find a field of yellow grain nodding to the sickle, than to allow your son to grow up without useful knowledge, and expect that he will sustain himself with respectability, in life, or (if consideration must be had of self-interest) prop and comfort your decline. Not spare our

children's time? Spare it, I might ask you, from what? Is any thing more important? Spare it for what? Can it be better employed, than in that cultivation of the mind, which will vastly increase the value of every subsequent hour of life? And to confine them, in the morning of their days, to a round of labor for the meat that perisheth,—is it not, when our children ask for bread, to give them a stone; when they ask for a fish, to give them a serpent, which will sting our bosoms as well as theirs?

Our governments, as well as individuals, have, I must needs say, a duty to discharge, to the cause of education. Something has been done, by some of the State governments much has been done, for this cause; but too much, I fear, remains undone. In the main, in appropriating the public funds, we tread too much in the footsteps of European precedents. I could wish our legislators might be animated with a purer ambition. In other parts of the world, the resources of the state, too often wrung from their rightful possessors, are squandered on the luxury of governments, built up into the walls of stately palaces or massy fortifications, devoured by mighty armies, sunk by overgrown navies to the bottom of the sea, swallowed up in the eternal wars of state policy. The treasure, expended in a grand campaign of the armies of the leading states of Europe, would send a schoolmaster to every hamlet, from Archangel to Lisbon. The annual expense of supporting the armies and navies of Great Britain and France, if applied to the relief and education of the poor, in those countries, would change the character of the age in which we live. Perhaps it is too much to hope, that, in the present condition of the politics of Europe, this system can be departed from. It seems to be admitted, as a fundamental maxim of international law among its governments, that the whole energy of their civilization must be exhausted, in preventing them from destroying each other. With us, on the contrary, while the Union of the States is preserved, (and Heav-

en grant it may be perpetual,) no obstacle exists to the appropriation, to moral and intellectual objects, of a great part of those resources which are elsewhere lavished on luxury and war.

How devoutly is it to be wished, that we could feel the beauty and dignity of such a policy, and aim at a new developement of national character! From the earliest period of history, the mighty power of the association of millions of men into a people, moved by one political will, has been applied to objects, at which humanity weeps, and which, were they not written on every page of the world's experience, would be absolutely incredible. From time to time, a personal gathering is witnessed; mighty numbers of the population assemble, *en masse*. Doubtless, it is some noble work which they are going to achieve. Marshalled beneath gay and joyous banners, cheered with the soul-stirring strains of music, honored, admired, behold how they move forward, the flower of the community, clothed, fed, and paid, at the public expense, to some grand undertaking! They go not empty-handed; their approach is discerned, afar, by a forest of glittering steel above their heads, and the earth groans beneath their trains of enginery, of strange form and superhuman power. What errand of love has called them out, the elected host, to go in person, side by side, and unite the mighty mass of their physical powers in one vast effort? Let the sharp volley that rings along the lines; let the scarcely mimic thunder which rends the sky; let the agonizing shrieks which rise from torn and trampled thousands, return the answer. Their errand is death. They go, not to create, but to destroy; to waste and to slay; to blast the works of civilization and peace; to wrap cities in flames, and to cover fertile fields with bloody ashes.

I cannot, will not, believe, that social man can rise no higher than this; that reason and experience, self-interest and humanity, the light of Nature, the progress of knowledge, and the word of God, will forever prove

too feeble for this monstrous perversion of human energy. I must believe, that the day will yet dawn, when the great efforts of individual and social man will be turned to the promotion of the welfare of his brother man. If this hope is to be realized, it must be by the joint action of enlightened reason, elevated morals, and pure religion, brought home, by a liberal and efficient system of education and the aid of Heaven, to every fireside and every heart.

Amidst much to awaken solicitude, in the condition of things in our beloved Country, as respects the progress of improvement, there is yet many a spot, within its borders, sacred to better hopes and higher anticipations. Let us dwell, for a moment, on the phenomena which have been exhibited on the spot where we are now assembled. Scarce eighty years have elapsed, since this village was the site of a small frontier post. Nothing which could be called settlement had crossed Connecticut River. The pioneers of civilization had begun to find their way into Berkshire, but they hardly ventured beyond the reach of the line of forts which guarded the frontier. Sheffield and Stockbridge were, I believe, the only towns incorporated before the old French war; and beyond them, westward, commenced the dreary wilderness, pathless, except as it was threaded by war parties from Canada and New England, and by bands of wretched captives, dragged from their homes, at midnight, to a miserable slavery among the French and Indians. The alternate action of the two nations, who stood at the head of the civilization of the world, had been felt, for a century, in these still valleys and venerable forests; but it was felt only to add the arts of civilized destruction to the horrors of savage warfare. One century of peaceful improvement and hopeful progress was blotted from the history of this portion of frontier America.

But the seeds of improvement were sown, even in this bloody soil. One of those generous spirits, who, from time to time, are raised up to accomplish great

objects, was stationed in this corner of the Commonwealth, in command of the line of forts erected for border defence. You know that I allude to the founder of this Institution. He foresaw, even then, the destinies of the Country. He knew that the dreary forest was not designed forever to encumber the soil. He beheld it yielding to the march of civilization. As he heard the crash of the sturdy trunk, falling beneath the narrow axe of the settler; as he saw the log-cabins slowly rising on the edge of the clearing, and beheld the smoke here and there curling up in the lonely and mysterious woods; as he heard the voice of the mountain stream, then babbling, unheeded, over the rocks; his sagacious mind overleaped the interval of years. He was called, by his intrepid spirit and his country's voice, to take an active part in the first scenes of the war of 1755. A presentiment of his fate seems to have been upon his mind. Before plunging into the campaign, he made provision for the appropriation of his fortune to furnish the means of education to the people, whose struggles, in settling this region, he had witnessed and shared. His will was made at Albany, on the twenty-second of July, 1755, bequeathing his property for the foundation of this Institution; and, on the eighth of September, of the same year, in an engagement with the troops under the Baron Dieskau, he fell, at the head of his regiment. Eighty years, only, have passed away. The laudable purposes of your founder have been more than fulfilled; and, out of the living fountain struck open in the desert by his generous bequest, abundant streams of piety and learning have flowed, and are flowing.

Colonel Williams's character was of no ordinary mould. At a distance from the seat of his benefaction, full justice has not been done to his memory. A man of the happiest natural temperament, a gentleman of the true natural stamp, unassuming and simple, supplying the deficiency of a learned education by large experience of men and things, acquired in foreign travel, in the

legislature, and in the army, yet modestly lamenting what others did not trace, his want of early advantages; without a family, but the patriarch of the frontier settlement where he was stationed; he fell, in the prime of early manhood, a victim to his patriotic zeal. A brief sketch of his biography, in one of the early volumes of the Massachusetts Historical Collections,* informs us, that he witnessed, with humane and painful sensations, the dangers, difficulties, and hardships, which the settlers of these valleys were obliged to encounter; and that, to encourage them, he was accustomed to intimate the purpose which was carried into effect in his will. I regret, not to have found Colonel Williams's views, on this subject, preserved somewhat in detail. It would have been exceedingly interesting to see the topic of education, in reference to the wants of a newly-settled country, as it presented itself to the practical view of a man of his character, on the eve of a war. As no such record, as far as I know, has been preserved, you will pardon me for attempting to present the subject to you, under the same light in which he may have contemplated it.

"My friends," (we may conceive he would say, to a group of settlers, gathered about old Fort Massachusetts, on some fit occasion, not long before his marching toward the place of rendezvous,) "your hardships, I am aware, are great. I have witnessed, I have shared them. The hardships, incident to opening a new country, are always severe. They are heightened, in our case, by the constant danger in which we live, from the savage enemy. At present, we are rather encamped than settled. We live in block-houses; we lie upon our arms, by night; and, like the Jews, who returned to build Jerusalem,† we go to work, by day, with the implements of husbandry in one hand, and the weapons of war in the other. Nor is this the worst. We have

* First Series, Vol. VIII. p. 47.

† Nehemiah iv. 17.

been bred up in the populous settlements on the coast, where the schoolhouse and the church are found at the centre of every village. Here, as yet, we can have neither. I know these things weigh upon you. You look upon the dark and impenetrable forests, in which you have made an opening, and contrast it with the pleasant villages, where you were born and passed your early years, where your parents are yet living, or where they have gone to their rest; and you cannot suppress a painful emotion.

"You are, more especially, as I perceive, somewhat disheartened, at the present moment of impending war. But, my friends, let not your spirits sink. The prospect is overcast, but brighter days will come. In vision, I can plainly foresee them. The forest disappears; the cornfield, the pasture, takes its place: the hill-sides are spotted with flocks; the music of the water-wheel sounds in accord with the dashing stream. Your little groups of log-cabins swell into prosperous villages. Schools and churches spring up in the waste; institutions for learning arise; and, in what is now a wild solitude, libraries and cabinets unfold their treasures, and observatories point their tubes to the heavens. I tell you, that not all the united powers of all the French and Indians on the St. Lawrence,—no, not if backed by all the powers of darkness which seem, at times, in league with them, to infest this howling wilderness,—will long prevent the valleys of the Hoosac and the Housatonic from becoming the abode of industry, abundance, and refinement. A century will not pass, before the voice of domestic wisdom and fireside inspiration, from the vales of Berkshire, will be heard throughout America and Europe. As for the contest, impending, I am sure we shall conquer; if I mistake not, it is the first of a series of events, of unutterable moment to all America, and even to mankind. Before it closes, the banner of St. George will float, I am sure, over Cape Diamond;* and the exten-

* At Quebec.

sion of the British power over the whole continent will be but the first act of a great drama, whose catastrophe I but dimly foresee.

"I speak of what concerns the whole Country; the fortune of individuals is wrapt in the uncertain future. For myself, I must own, that I feel a foreboding at my heart, which I cannot throw off. I can only say, if my hour is come, (and I think it is not distant,) I am prepared. I have been able to do but little; but, if Providence has no further work for me to perform, I am ready to be discharged from the warfare. It is my purpose, before I am taken from you, to make a disposition of my property, for the benefit of this infant community. My heart's desire is, that, in the picture of its future prosperity, which I behold in mental view, the last and best of earthly blessings shall not be wanting. I shall deem my life not spent in vain, though it be cut off to-morrow, if, at its close, I shall be accepted as the humble instrument of promoting the great cause of education.

"My friends, as I am soon to join the army, we meet, many of us, perhaps, for the last time. I am a solitary branch; I can be spared. I have no wife, to feel my loss; no children, to follow me to the grave. Should I fall by the tomahawk or in the front of honorable battle, on the shores of the stormy lake or in the infested woods, this poor body may want even a friendly hand to protect it from insult. But I must take the chance of a soldier's life. When I am gone, you will find some proof that my last thoughts were with the settlers of Fort Massachusetts; and perhaps, at some future day, should my desire to serve you and your children not be disappointed, my humble name will not be forgotten in the public assembly, and posterity will bestow a tear on the memory of EPHRAIM WILLIAMS."

THE IMPORTANCE OF THE MECHANIC ARTS.*

MR. PRESIDENT AND GENTLEMEN,—I beg leave to congratulate you, on the success of your efforts to establish the first Fair of the Massachusetts Charitable Mechanic Association. Under circumstances somewhat unfavorable, you have produced an exhibition, which, I am persuaded, has fully answered the public expectation. More than fifteen thousand articles, in almost every department of art, have been displayed in the halls. Specimens of machinery and fabrics, reflecting great credit on their inventors, improvers, and manufacturers, many of them affording promise of the highest utility, and unitedly bearing a very satisfactory testimony to the state of the arts in this Country, and particularly in this community, have been submitted to the public inspection. The exhibitors have already, in the aggregate, been rewarded with the general approbation of the crowds of our fellow-citizens, who have witnessed the display. It will be the business of your committees, after a critical examination of the articles exhibited, to award enduring testimonials of merit. But the best reward will be the consciousness of having contributed to the common stock of the public welfare, by the successful cultivation of the arts, so important to the improvement of society and the happiness of life.

I feel gratified, at being invited to act as the organ of your Association, in this general expression of its sentiments, on so interesting an occasion. It would be a pleasing employment, to attempt an enumeration and description of some of the most important of the articles exhibited. But it would be impossible to accomplish this object, to any valuable purpose, within reasonable

* An Address delivered before the Massachusetts Charitable Mechanic Association, September 20, 1837, on occasion of their first Exhibition and Fair.

limits. It would require a condensing apparatus, more efficient than any which has yet been contrived, to bring even a descriptive catalogue of the articles exhibited, within the compass of a public address: to give a full account of the most important of them, would demand no small portion of the knowledge and skill required for their fabrication. The nature of this occasion prescribes a much simpler character to the remarks I shall submit to your indulgence. It will be my sole object to establish, by a few obvious illustrations, the vast importance of the Mechanic Arts. In pursuing this end, the greatest difficulty to be overcome is, that the point to be established is too certain, to be proved, and too generally admitted, to need a formal assertion.

Man, as a rational being, is endowed by his Creator with two great prerogatives. One is, the control over matter and inferior animals, which is physical power; the other, the control over kindred mind, which is moral power, and which, in its lower forms, is often produced by the control over matter: so that power over the material world is, practically speaking, a most important element of power in the social, intellectual, and moral, world. Mind, all the time, is the great mover; but, surrounded, encased, as it is, with matter, acting by material organs, treading a material earth, incorporated and mingled up with matter, I do not know that there is any thing but pure, inward thought, which is not dependent upon it; and even the capacity of the mind for pure thought is essentially affected by the condition of the material body, and by external circumstances acting upon it.

This control of mind over matter is principally effected through the medium of the mechanic arts, taking that term in its widest acceptation. The natural faculties of the human frame, unaided by artificial means, are certainly great and wonderful; but they sink to nothing, compared with the power which accrues from the skilful use of tools, machines, engines, and other materi-

agents. Man, with his unaided strength, can lift but one or two hundred weight, and that but for a moment; with his pulleys and windlasses, he sets an obelisk upon its base,—a shaft of solid granite, a hundred feet high. The dome of St. Peter's is one hundred and twenty feet in diameter; its sides are twenty-two feet in thickness; it is suspended in the air, at an elevation of three hundred and twenty feet from the ground; and it was raised by hands as feeble as these. The unaided force of the muscles of the human hand is insufficient to break a fragment of marble, of any size, in pieces; but on a recent visit to the beautiful quarries in Sheffield, from which the columns of the Girard College, at Philadelphia, are taken, I saw masses of hundreds of tons, which had been cleft from the quarry by a very simple artificial process. Three miles an hour, for any considerable space of time, and with ample intervals for recreation, food, and sleep, are the extreme limit of the locomotive capacity of the strongest frame, and this confined to the land. The arts step in: by the application of one portion of them, to the purposes of navigation, man is wafted, night and day, waking and sleeping, at the rate of eight or ten miles an hour, over the unfathomed ocean; and, by the combination of another portion of the arts, he flies at the rate of fifteen or twenty miles an hour, and, if need be, with twice that rapidity, without moving a muscle, from city to city.

The capacity of imparting thought, by intelligible signs, to the minds of other men,—the capacity which lies at the foundation of all our social improvements,—while unaided by art, was confined within the limits of oral communication and memory. The voice of wisdom perished, not merely with the sage by whom it was uttered, but with the very breath of air on which it was borne. Art came to the aid of the natural capacity; and, after a long series of successive improvements, passing through the stages of pictorial and symbolical representations of things, the different steps of hieroglyphical writing, (each occupying, no doubt, long periods of time for

its discovery and application,) it devised a method of imprinting on a material substance an intelligible sign, not of things, but of sounds forming the names of things; in other words, it invented the A B C. With this simple invention, and the mechanical contrivances with which it is carried into effect, the mind of man was, I had almost said, recreated. The day before it was invented, the voice of man, in its utmost stretch, could be heard but by a few thousands, intently listening, for an hour or two, during which, alone, his strength would enable him to utter a succession of sounds. The day after the art of writing was invented, he was able to stamp his thoughts on a roll of parchment, and send them to every city and hamlet of the largest empire. The day before this invention, the mind of one country was estranged from the mind of all other countries. For almost all the purposes of intercourse, the families of man might as well not have belonged to one race. The day after it, Wisdom was endued with the gift of tongues, and spake, by her interpreters, to all the tribes of kindred men. The day before this invention, and nothing but a fading tradition, constantly becoming fainter, could be preserved by the memory, of all that was spoken or acted by the greatest and wisest of men. The day after it, Thought was imperishable; it sprung to an earthly immortality; it seized the new-found instruments of record and commemoration, and, deserting the body, as it sunk, with its vocal organs, into the dust, it carved, on the very gravestone, "The mind of man shall live forever."

It would be easy to multiply these illustrations of the importance of the aid, rendered by the arts to the natural faculties of man. They present themselves to the reflecting mind, in every direction; and they lead the way to the conclusion, that the mechanical arts are the great instruments of human civilization. We have some means of judging what man was, before any of the useful arts were discovered, because there exist, on the surface of the globe, many tribes and races, nearly

or quite destitute of them; as, for instance, the native inhabitants of this continent. We know not, with certainty, it is true, whether these and other savage races are specimens of humanity, disjoined from the parent stock, before great progress had been made in civilization, or broken down and degenerate fragments of nations once cultivated, and retaining, even in their present degraded condition, some remnants of primitive improvement. There are some circumstances which favor the latter opinion, and consequently they do not afford us a perfect specimen of what man would be, before the discovery of any of the useful arts of life. But we may see enough, in them, to learn how much of all our civilization resides in these arts; that, in fact, civilization may almost be considered another word for their aggregate existence and application. For it is a somewhat humiliating reflection, that, in many things dependent on the human organs and senses, unaided by the arts, the savage greatly excels the most improved civilized man. Thus man, with one set of glasses, penetrates the secret organization of the minutest insect or plant; marks the rise of the sap in the capillaries of a blade of grass: counts the pulsations of the heart in an animalcule a hundred times smaller than the head of a pin; while, with another set of glasses, he fills the heavens with a hundred millions of stars, invisible to the naked eye. To the savage, the wonders of the microscope and the telescope are unknown; but he can, by traces which elude our keenest vision, tell whether it is the foot of friend or enemy, which has passed over the grass before his tent, in the silence of night; and he can find his way through the pathless and tangled forest, without a guide. Civilized man, with his wheels and his steam, runs a race with the winds; but, left to the natural force of his members, soon sinks, from fatigue. The indefatigable savage, ignorant of artificial conveyance, outtires, on foot, the hound and the horse; and, while the famished child of civilized life faints, at the delay of his periodical meal, a three days' hunger

makes no impression on the iron frame of the poor Indian. Civilized man, although surrounded by his arts, with enjoyments that seem to render life a hundred fold more precious, lies drenched in sleep one third of his precious hours, and may well envy the physical training, which enables his hardy brother of the forest, when occasion requires, to bid defiance, night after night, to the approach of weariness.

But this superiority, which the savage possesses over civilized man, in the discipline of some of the natural capacities of our frame, is turned to little account of human improvement and happiness, for want of those arts which create, combine, and perpetuate, the powers and agents by which our wants are supplied. Even the few comforts, of which his forlorn condition is susceptible, are mostly derived, not from this superior training of his natural faculties and senses, but from his possession of some few imperfect arts. The savage, needy at best, without his moccasins, his snow-shoes, his dressed buffalo skin, his hollowed tree or bark canoe, his bow and arrow, his tent, and his fishing gear, would be a much more abject being. These simple inventions, and the tools and skill required by them, no doubt occupied a considerable period, in the early history of our race. But the great difference, between savage and civilized life, consists in the want of those more improved arts, the products of which we have been contemplating, by which no inconsiderable quantity of human power and skill can be transferred to inanimate tools and machinery, and perpetuated in them;—the arts, whereby the grasp of the hand, which soon weaies, can be transferred to the iron gripe of the vice, the clamp, and the bolt, that never tire; the arts, by which stone, and metal, and leather, and wood, may be made to perform the offices of poor flesh and bone. The savage, when he has parched his corn, puts it in a rude mortar, which, with infinite toil, he has scooped out of a rock, and laboriously pounds it into meal. It is much, if, in this way, he can prepare food enough to keep him

alive while he is preparing it. The civilized man, when he has raised his corn, builds a mill, with a water-wheel, and sets the indefatigable stream to grinding his grain. There are now two or three laborers at work; one, it is true, with forces which soon weary, and which can only be kept up, by consuming a part of the corn as fast as it can be made into food, but endowed with an untiring and inexhaustible invention; the other patient fellow-laborers of wood and iron, the stream, the wheel, and the millstone, without capacity for headwork, are willing to grind corn, all day, and not ask a mouthful back, by way of sustenance. Civilization is kept up, by storing the products of the labor, thus economized, and imparting a share of it to those engaged in some other pursuit, who give a portion of its products in exchange for food.

Take another illustration, in the arts employed in furnishing the clothing of man. The savage, when he has killed a buffalo and dried his skin, prepares it, with the manual labor of several weeks, for a garment; a substantial and sightly garment; but it has taken him a long time, and he has made but one. The civilized man, having a world of business on his hands, has contrived a variety of machines, which perform almost all the work required for his clothing. He cuts a mass of curled wool from the sheep's back, a confused, irregular heap of fibrous threads, which would seem to defy the skill and industry of the artificer. How long will it not take the busiest pair of fingers to piece those fibres together, end to end, to lay them side by side, so as to give them substance, coherence, dimensions,—to convert them into a covering and defence, excluding cold and wet! The savage, in taking the skin, seems to have made the wiser choice. Nature has done the spinning and weaving to his hand. But wait a moment: there is a group of iron-fingered artificers, in yonder mill, who will show you a wonder. They will, with a rapidity scarcely conceivable, convert this uncouth, fibrous heap into a uniform mass; they will draw out

its short, curly fibres into long, even threads, lay them side by side, and curiously cross them over and under with magical dexterity, till they form a compact tissue, covered with a soft down and a glossy lustre, smooth, impervious, flexible, in quantity sufficient to clothe a family for a year, with less expense of human labor, than would be required to dress a single skin.

Consider the steam-engine. It is computed that the steam power of Great Britain, not including the labor economized by the enginery it puts in motion, annually performs the work of a million of men. In other words, the steam-engine adds to the human population of Great Britain, another population, one million strong. Strong, it may well be called. What a population! so curiously organized, that they need neither luxuries nor comforts, that they have neither vices nor sorrows; subject to an absolute control, without despotism; laboring night and day for their owners, without the crimes and woes of slavery; a frugal population, that wastes nothing and consumes nothing, unproductively; an orderly population, to which mobs and riots are unknown; among which, the peace is kept, without police, courts, prisons, or bayonets; and annually lavishing the product of one million pairs of hands, to increase the comforts of the fifteen or twenty millions of the human population. And yet the steam-engine, which makes this mighty addition to the resources of civilization, is but a piece of machinery. You have all seen it, both in miniature and on a working scale, at the halls. In the miniature model, (constructed by Mr. Newcomb, of Salem,) it can be moved by the breath of the most delicate pair of lips in this assembly; and it could easily be constructed of a size and power, which would rend these walls from their foundation, and pile the roof in ruins upon us. And yet it is but a machine. There is a cylinder and a piston; there are tubes, valves, and pumps; water, and a vessel to boil it in. This is the whole of that enginery, with which the skill and industry of the present age are working their wonders. This is the whole

of the agency which has endowed modern art with its superhuman capacities, and sent it out, to traverse the continent and the ocean, with those capacities, which Romance has attributed to her unearthly beings:—

> "Tramp, tramp, along the land they ride,
> Splash, splash, across the sea."

It is wholly impossible to calculate the quantity of labor economized by all the machinery which the steam-engine puts in motion. Mr. Baines states, that the spinning machinery of Great Britain, tended by one hundred and fifty thousand workmen, "produces as much yarn as could have been produced by FORTY MILLIONS OF MEN, with the one-thread wheel!"* Dr. Buckland remarks, that it has been supposed, that "the amount of work now done by machinery, in England, is equivalent to that of between three and four hundred millions of men, by direct labor."†

This prodigious economy and accumulation of power, effected by the mechanic arts, are occupied in supplying the wants and promoting the comfort of man. When, therefore, the ingenious artisan makes an improvement in a useful machine, he economizes labor, creates power, accumulates usefulness, and promotes the progress of civilization. I doubt not, if it were possible to write the secret history of the mechanic arts, (if I may so express myself;) to trace the most important manufactures and machines, through their various stages, to their origin; to show how, by the addition of a spring here, a cog there, a knee-joint in this place, a perpetual screw in that, or a system of these powers, the most complicated engines have been brought, from the humblest beginnings, to their present condition;—it would appear, that a single mechanical improvement had often had the effect of adding thousands and tens of thousands of horse-power and man-power to the productive energy of the community. The astonishment and ad-

* Baines's History of the Cotton Manufacture, p. 362.

† Buckland's Geology and Mineralogy, Vol. I. p. 400.

miration with which we should survey the wonders of modern machinery, are impaired, by not knowing, more generally than the mass of men can know, the stages through which it has passed, and the mental efforts which have been expended in improving it. There is an untold, probably an unimagined, amount of human talent, of high mental power, locked up among the wheels and springs of the machinist; a force of intellect of the loftiest character has been required, to make this department of human pursuit what it is. This stunning din, this monotonous rattle, this tremendous power, and the quiet, steady force of these humble, useful, familiar arts, result from efforts of the mind, kindred with those which have charmed or instructed the world with the richest strains of poetry, eloquence, and philosophy.

These improvements have sometimes been long delayed, and art, for ages, has been stationary; and then, by the happy developement of some mechanical contrivance, it has made boundless progress in an age. It is not yet, I believe, more than two or three centuries, since the only mode of spinning, known, was by the rock and spindle. The simple spinning-wheel, moved by the hand, and which was thought, in the times of our grandparents, to show a graceful form and a well-turned arm, to nearly as great advantage as a harp, at the present day, and to make a music almost as cheerful, is at once an obsolete and a modern invention. The Greeks and Romans are said to have been unacquainted with the spinning-wheel. The monarch's heavy purple and the nymph's airy tissue were alike manufactured by twirling the distaff, and drawing out a thread with the fingers; and no improvement was made on this tedious process, in Great Britain, before the fifteenth century. It is evident, that much more labor must have been requisite, with this rude machinery, to supply the indispensable article of clothing, than with the modern improvements. The introduction of the spinning-wheel produced a great economy of this

labor; but the introduction of the spinning and weaving machinery, of the last century, has pushed this economy to an extent, at which it is in vain to attempt to calculate it. This economy operates, first, to multiply the comforts of the existing population, and then, by necessary consequence, to increase the population, capable of subsisting in a given circuit. Yes, the man, who, in the infancy of the arts, invented the saw or the plane, the grindstone, the vice, or the handmill; and those who, in later periods, have contributed to the wonderful system of modern machinery; are entitled to rank high among the benefactors of mankind, as the fathers of civilization, the creators, I had almost said, of nations. It is not the fabulous wand of the enchanter, it is the weaver's beam, and instruments like it, which call thousands and tens of thousands into being.

Mind, acting through the useful arts, is the vital principle of modern civilized society. The mechanician, not the magician, is now the master of life. He kindles the fires of his steam-engine, and the rivers, the lakes, the ocean, are covered with flying vessels; mighty chain-pumps descend, clanking and groaning, to the deepest abysses of the coal-mine, and rid them of their deluge of waters; and spindles and looms ply their task, as if instinct with life. It is the necromancy of the creative machinist. In a moment, a happy thought crosses his imagination, and an improvement is conceived. Some tedious process can be superseded, by a chemical application, as in the modern art of bleaching. Some necessary result can be attained, in half the time, by a new mechanical contrivance; another wheel, a ratchet, or a screw, will effect the object; he tries a few experiments; it will succeed; it is done. He stamps his foot, and a hundred thousand men start into being; not, like those which sprang from the fabled dragon's teeth, armed with the weapons of destruction, but furnished with every implement for the service and comfort of man. It is stated by James Watt, (before whose time, the steam-engine was an imperfect and inefficient

machine,) that the moment the notion of "separate condensation" struck him, all the other details of his improved engine followed, in rapid and immediate succession, so that, in the course of one or two days, his invention was so complete, that he proceeded to submit it to experiment.* Could that day be identified, it would well deserve an anniversary celebration, by the universal tribes of civilized man.

I have said, that mind, acting through the mechanic arts, is the vital principle of modern civilized society. I would be the last to undervalue the importance of moral and intellectual influences, or to seem to give undeserved countenance to the mechanical tendency of the age. On the contrary, I look upon the intellectual and moral influence of the useful arts, as the most important aspect in which the subject can be contemplated. The immediate result of every improvement in these arts, as has been already stated, often is, and always might and should be, by making less labor and time necessary for the supply of human wants, to raise the standard of comfortable living, increase the quantity of leisure time applicable to the culture of the mind, and thus promote the intellectual and moral progress of the mass of the community. That this is the general tendency of a progress in the useful arts, no one can doubt, who compares the present condition of the world with its condition in the middle ages; and the fact is confirmed by the history of single inventions. I have already spoken of alphabetical writing. This single art was a step, absolutely essential, in the moral and intellectual progress of our race. To speak of the art of printing, in its connexion with morals and mind, would be as superfluous, as it would be difficult to do justice to the topic. Its history is not so much an incident, as the summary of modern civilization. Vast as the influence of this art of arts has been, it may well be

* See 'Pursuit of Knowledge under Difficulties,' (in 'THE SCHOOL LIBRARY,') Vol. II. p. 254, for a Biographical sketch of Watt, and a notice of his improvements in the Steam-engine.

doubted, whether improvements will not yet be made, in the mechanism connected with it, which will incalculably increase its efficiency. If I mistake not, the trumpet-voice of Truth, from this machine, is yet destined to reach to distances and depths of society, which have hitherto remained unexplored and neglected.

Again, in reference to the intimate connexion of the useful and mechanic arts with intellectual progress, let us but advert, for a moment, to the mariner's compass, the telescope, the quadrant. For myself, I never reflect upon their influence on the affairs of man, and remember that they are, after all, merely mechanical contrivances, without emotions of admiration, bordering upon awe. This sentiment, I know, is so worn away by habit, that it seems almost to run into sentimentality. But let us not be ashamed to reproduce the emotions that spring from the freshness of truth and Nature. What must have been Galileo's feelings, when he pointed the first telescope to the heavens, and discovered the phases of Venus and the moons of Jupiter! When I behold the touched needle trembling to the pole; when I know, that, beneath the utter blackness of the midnight storm, when every star in heaven is quenched, and the laboring vessel, in mid-ocean, reels, like a drunken man, on the crested top of the mighty waves, that little bar of steel will guide the worn and staggering helmsman on his way,—I feel that there is a holy philosophy in the arts of life, which, if I cannot comprehend, I can reverence.

Consider the influence on the affairs of men, in all their relations, of the invention of the little machine which I hold in my hand;* and the other modern instruments, for the measurement of time, various specimens of which are on exhibition in the halls. To say nothing of the importance of an accurate measurement of time in astronomical observations, nothing of the application of timekeepers to the purposes of navigation, how vast must be the aggregate effect, on the af-

* A watch.

fairs of life, throughout the civilized world, and in the progress of ages, of a convenient and portable apparatus for measuring the lapse of time! Who can calculate, in how many of those critical junctures, when affairs of weightiest import hang upon the issue of an hour, Prudence and Forecast have triumphed over blind Casualty, by being enabled to measure, with precision, the flight of time, in its smallest subdivisions! Is it not something more than mere mechanism, which watches with us, by the sick-bed of some dear friend, through the livelong solitude of night, enables us to count, in the slackening pulse, Nature's trembling steps toward recovery, and to administer the prescribed remedy, at the precise, perhaps the critical, moment of its application?

By means of a watch, punctuality in all his duties, which, in its perfection, is one of the incommunicable attributes of Deity, is brought, in no mean measure, within the reach of man. He is enabled, if he will be guided by this half-rational machine, creature of a day as he is, to imitate that sublime precision, which leads the earth, after a circuit of five hundred millions of miles, back to the solstice at the appointed moment, without the loss of one second, no, not the millionth part of a second, for the ages on ages during which it has travelled that empyreal road.* What a miracle of art, that a man can teach a few brass wheels, and a little piece of elastic steel, to out-calculate himself; to give him a rational answer to one of the most important questions, which a being travelling toward eternity can ask! What a miracle, that a man can put, within this little machine, a spirit, that measures the flight of time with greater accuracy than the unassisted intellect of the profoundest philosopher; which watches and moves, when sleep palsies alike, the hand of the maker and the mind of the contriver, nay, when the last sleep has come over them both!

* It is not, of course, intended that the sidereal year is always of precisely the same length, but that its variations are subject to a fixed law. See Sir John Herschel's treatise on Astronomy, § 563.

I saw, the other day, at Stockbridge, the watch which was worn on the eighth of September, 1755, by the unfortunate Baron Dieskau, who received his mortal wound on that day, near Lake George, at the head of his army of French and Indians, on the breaking out of the Seven Years' War. This watch, which marked the fierce, feverish moments of the battle, as calmly as it has done the fourscore years which have since elapsed, is still going; but the watchmaker and Baron have now, for more than three fourths of a century, been gone where time is no longer counted. Frederic the Great was another, and a vastly more important, personage of the same war. His watch was carried away from Potsdam by Napoleon, who, on his rock, in mid-ocean, was wont to ponder on the hours of alternate disaster and triumph, which filled up the life of his great fellow-destroyer, and had been equally counted on its dial-plate. The courtiers used to say, that this watch stopped of its own accord, when Frederic died. Short-sighted adulation! for if it stopped at his death, as if time was no longer worth measuring, it was soon put in motion, and went on, as if nothing had happened.

Portable watches were probably introduced into England, in the time of Shakspeare; and he puts one into the hand of his fantastic jester, as the text of his morality. In truth, if we wished to borrow from the arts a solemn monition of the vanity of human things, the clock might well give it to us. How often does it occur to the traveller in Europe, as he hears the hour told from some ancient steeple, that iron tongue in the tower of yonder old cathedral, unchanged itself, has had a voice for every change in the fortune of nations! It has chimed monarchs to their thrones, and knelled them to their tombs; and, from its watch-tower in the clouds, has, with the same sonorous and impartial stoicism, measured out their little hour of sorrow and gladness, to coronation and funeral, abdication and accession, revolution and restoration; victory, tu-

mult, and fire:*—and, with like faithfulness, while I speak, the little monitor, by my side, warns me back from my digression, and bids me beware, lest I devote too much of my brief hour even to its own commendation.

Let me follow the silent monition, sustained, perhaps, by the impatience of the audience, and hasten to the last topic of my address. The object of our present exhibition is not mere show, however innocent and gratifying. It is to make the community better acquainted with the state of the arts, by a public display of their products; to excite a generous emulation, by their comparison: and thus to lead on our ingenious artificers, improvers, and inventors, to higher degrees of excellence. The astonishing progress of the arts, in modern times, is a subject of the most familiar remark. It would require a volume, even to enumerate the most considerable improvements. So numerous are the inventions and discoveries that have been made, in every department, and to such perfection have many arts been carried, that we may perhaps be inclined to think, that, in the arts, as on the surface of the globe, after all the brilliant discoveries in navigation, in the last three centuries, there is nothing left to find out. Though it is probable, that, in particular things, no further progress can be made, (and even this I would not affirm, with any confidence,) yet, so far from considering invention as exhausted, or art at a stand, I believe there never was a moment, when greater improvements were to be expected: and this, for the very reason that so much has already been done; that truth, in its nature, is at once boundless and creative; and that every existing art, invention, and discovery, is but an instrument of further improvement. Even when any particular art or machine seems to have reached the highest attainable point of excellence, nothing is more likely, than that it

* The associations here alluded to have lately been rendered familiar to the public, by Mr. S. A. Eliot's spirited translation and adaptation to music, of Schiller's splendid poem of the *The Bell*. The idea was originally glanced at, in one of Mrs. Elizabeth Montague's Letters.

will, by some wholly unexpected discovery or improvement, be greatly advanced; or that, by accidental or natural association, it will lead to some other very important improvement in a branch of art wholly dissimilar; or, finally, that it will be superseded by something quite different, but producing the same result. Take, as an example, the art of printing. The simple process of printing, with movable types and a press moved by hand, does not seem, in the lapse of four hundred years, to have undergone any very material improvement. The introduction of solid plates, and the application of artificial power to the press, are improvements wholly disconnected, in their nature, from the art of printing, and yet add incalculably to its efficacy and operative power.

In a word, the products of art are the creations of rational mind, working, with intelligent and diversified energy, in a thousand directions; bounding from the material to the moral world, and back from speculation to life; producing the most wonderful effects on moral and social relations, by material means, and again, in an improved political and moral condition, finding instruments and encouragement for new improvements in mechanical art. In this mighty action and reaction, we are continually borne on to results the most surprising. Physical and moral causes and effects produce moral and physical effects and causes, and every thing discovered tends to the discovery of something, yet unknown. It rarely, perhaps never, happens, that any discovery or invention is wholly original;—as rarely, that it is final. As some portion of its elements lay in previously existing ideas, so it will waken new conceptions in the inventive mind. The most novel mechanical contrivance contains, within itself, much that was known before; and the most seemingly perfect invention, if we may judge the future by the past, admits of further improvements. For this reason, the more that is known, discovered, and contrived, the ampler the materials, out of which new discoveries, inventions, and improvements, may be expected.

Perfect as the steam-engine seems, it is a general persuasion, that we are in the rudiments of its economical uses. The prodigious advances, made in the arts of locomotion, teach nothing more clearly, than the probability, that they will be rendered vastly more efficient. The circulation of ideas, by means of the press, is probably destined to undergo great enlargement. Analytical chemistry has, within the last thirty years, acquired instruments, which enable the philosopher to unlock mysteries of Nature, before unconceived of. Machinery, of all kinds and for every purpose, is daily simplified and rendered more efficient. Improved manipulations are introduced into all the arts, and each and all of these changes operate as efficient creative causes of further invention and discovery. Besides all that may be hoped for, by the diligent and ingenious use of the materials for improvement, afforded by the present state of the arts, the progress of science teaches us to believe, that principles, elements, and powers, are in existence and operation around us, of which we have a very imperfect knowledge, perhaps no knowledge, whatever. Commencing with the mariner's compass, in the middle ages, a series of discoveries has been made, connected with magnetism, electricity, galvanism, the polarity of light, and the electro-magnetic phenomena, which are occupying much attention, at the present day, all of which are more or less applicable to the useful arts, and which may well produce the conviction, that, if in some respects we are at the meridian, we are, in other respects, in the dawn, of science. In short, all art, as I have said, is a creation of the mind of man; an essence of infinite capacity for improvement. And it is of the nature of every intelligence, endowed with *such* a capacity, however mature in respect to the past, to be, at all times, in respect to the future, in a state of hopeful infancy. However vast the space measured behind, the space before is immeasurable; and, though the mind may estimate the progress it has made, the

boldest stretch of its powers is inadequate to measure the progress of which it is capable.

Let me say, then, Mr. President, and Gentlemen of the Mechanic Association, PERSEVERE. Do any ask what you have done, and what you are doing, for the public good? Send them to your exhibition rooms, and let them see the walls of the temple of American Liberty fitly covered with the products of American Art. And while they gaze, with admiration, on these creations of the mechanical arts of the Country, bid them remember, that they are the productions of a people, whose fathers were told, by the British ministry, they should not manufacture a hobnail! Does any one ask, in disdain, for the great men who have illustrated the Mechanic Arts? Repeat to him the wellknown names, which will dwell in the grateful recollections of posterity, when the titled and laurelled destroyers of mankind shall be remembered only with detestation. Mechanics of America! Respect your calling! respect yourselves! The cause of human improvement has no firmer or more powerful friends. In the great Temple of Nature, whose foundation is the earth, whose pillars are the eternal hills, whose roof is the starry sky, whose organ-tones are the whispering breeze and the sounding storm, whose architect is God,—there is no ministry more sacred than that of the intelligent mechanic!

EDUCATION THE NURTURE OF THE MIND.*

I TRUST, Mr. President, that I shall not be thought an intruder, in rising to take some part in this interesting debate. It is made the duty of the Board of Education, of which I have the honor to be officially a member, to promote, as far as practicable, the objects for which the Board was established, by a participation in these meetings. Even if no such call of duty warranted me, in thus presenting myself before you, at this time, I am persuaded that this is a cause in which you would not reject the services of a volunteer, however humble.

I do not rise however, sir, to attempt to convey any information, on the great subject of Education. I speak in the presence of many practical persons, before whom it would be arrogant, in me, to attempt to use the language of authority, on this subject. There is, however, a single illustration of the nature of education, which constantly presents itself to my mind, and which I deem so important, as to warrant me in dwelling, for a few moments, upon it, however obvious and trite the general proposition which I would endeavor to establish.

The point, sir, to which I refer, is the importance of education, as the means by which the mind of man, or rather let me say, by which man himself, considered as an intellectual and moral existence, attains his formation and growth.

There are many very striking truths, which, on account of their familiarity, fail to affect us as powerfully as they ought. The unusual and the irregular arouse our attention; the habitual passes before us, surrounds us, dwells within us, and we do not notice it, do not

* Substance of Remarks, made at the County Convention of the friends of Education, held at Tisbury, on the island of Martha's Vineyard, August 16, 1838.

reflect upon it. The multitude runs to gaze at any departure from the laws of Nature, but casts a vacant eye on the wonder and beauty of its daily miracles. How little are we affected by the divine faculty of vision, by which the entire external world is successively pictured, as it were, upon the everchanging tapestry which hangs around the inner chambers of the soul! But, if it is reported that an individual can see with the back of his head or the pit of his stomach, the community is alive at the tidings. Men, who have been blessed, all their lives, with the glorious gift of speech; who have been accustomed, without reflection, by a few slight movements of the lips and tongue, to give a vibration to the air, which carries intelligence, expresses the finest shades of thought, awakens sympathy and kindles passion in other minds; men, who have seen their little children, they know not how, without books and without a teacher, acquire this heavenly endowment of articulate speech,—will travel miles, to behold the performance of a ventriloquist; and think they have made a good bargain, when they have paid a dollar, to hear him throw a voice into a chest of drawers.

I am not disposed, sir, to play the austere censor, and to quarrel with this eager passion for novelty. It leads, I am aware, if well directed, to improvement. It nourishes the spirit of observation. But I would have it accompanied with the habit of sober and thoughtful reflection on the world of greater wonders, which surrounds us, which we carry about within us, in the frame of our being and the constitution of our nature. The truly wonderful is not that which breaks out into astonishing novelties and fantastic peculiarities; it is the inimitable contrivance and the miraculous proportion, resource, and harmony, of our existence. Imagination and romance, in their wildest freaks, credulity, in its greediest cravings for excitement, has never caught at any thing of monstrous or fairy creation, which parallels those quiet mysteries of our nature, which make up the the daily round of life.

The most important of these mysteries (humanly speaking) is, the formation and growth of the mind of man, considered as a real substantive being; and the point of view, in which I have wished to present the subject of education to you, on this occasion, is that of being, in ordinary cases, the appointed means of the formation and growth of this invisible and mysterious substance, which we call the mind: that formless essence, which gives life to all the forms of humanity; that unseen thing, which, through the animated eye, beholds all the qualities of external Nature; that undying thing, which, with perishable organs, and failing limbs, and fainting senses, erects its perennial monuments on earth, and climbs the paths of an immortality, which shall endure, when the earth, and all that encumbers and adorns it, shall pass away. In a word, I could wish, were it possible for me to do it, to present to the understandings of those whom I have the honor to address, the impression, which dwells upon my own, of the nature and importance of education, considered as the name we give to the care and nourishment of our minds.

What labor and pains are not bestowed to clothe, and feed, and shelter, the body; to shield it from blight and disease; to rear it up into a healthy and well-proportioned frame of vigorous humanity! Now, suppose it were possible, (and, to some extent, it is possible,) that it were even quite easy, without actually starving a human creature to death, to keep him in being, for the usual term of existence, without that supply of accustomed food, which is necessary for health, strength, and comeliness. Suppose there was such a thing as a community of men, capable of subsisting and continuing their race, but who, from poverty, indolence, or the act of God; for want of means, or knowledge to use them; should pass through life, without any developement of the great vital powers; should just be alive, and no more; who should, in the language of Scripture, have eyes but see not, ears but hear not; their senses all tor-

pid; their limbs feeble, nerveless, incapable of muscular movement; the entire system languid, pining, cataleptic; all but lifeless, and yet alive. What should we think of such bodies, of such existence, of such beings? What should we think of such fatuity and madness, if they knowingly and designedly reduced themselves, and kept themselves in such a state, living as they do on the fertile earth, lords of the subject animals, and able, if they were pleased, to seat themselves, every day, at the bountiful table of Providence, and receive nourishment, and health, and strength, from its liberal supplies?

Now, sir, I am coming to the point, which I wish to illustrate; and it is this:—What none but a madman would knowingly do to his body; what no known community of men, raised above the abjectest level of savage life, and placed on a soil and in a climate that yield a competent supply of wholesome food, has ever done to the perishing corporeal frame; what no father, in whose bosom the last drop of the milk of human kindness and parental love was not dried up, would do to his child;—that is done and permitted to be done, without scruple and without rebuke, to the immortal intellect: and this, in enlightened lands and in Christian communities, composed of men who know that they have not only minds to enlighten, but souls to save. I say the monstrous and unnatural cruelty, never practised to himself or another, as far as the body is concerned, unless by an idiot or a savage, is daily, constantly, remorselessly, practised upon that which excels the body, by all the difference between mind and matter, spirit and clay, heaven and earth.

The body is not starved, except in cases of cruel necessity. Not starved? it is nourished and pampered, by whatever can provoke or satisfy the appetite; the healthy child is nursed and nourished up into the healthy man; the tiny fingers, which now weary with the weight of the rattle, will be trained up to a grasp of steel; and the little limbs will learn to stretch, unfatigued, over plain and mountain, while the inward intellectual being

will be allowed to remain unnourished, neglected, and stinted. A reason, capable of being nurtured into the vigorous apprehension of all truth, will remain uninformed and torpid, at the mercy of low prejudice and error; a capacity, which might have explored Nature, mastered its secrets, and weighed the orbs of heaven in the golden scales of science, shall pass through life, clouded with superstition, ignorant of the most familiar truth, unconscious of its own heavenly nature. There is the body of a man, sound, athletic, well-proportioned; but the mind within is puny, dwarfed, and starved. Could we perceive it with our bodily sight, we should pity it. Could the natural eye measure the contrast between a fully-developed and harmoniously-proportioned intellect, on the one hand, and a blighted, stinted, distorted, sickly, understanding, on the other, even as it compares a diseased and shrivelled form with the manly expansion and vigorous developement of health, we should be moved with compassion; but, so completely do we allow ourselves to be the slaves of material sense, that many a parent, who would feel himself incapable of depriving a child of a single meal, will let him grow up, without ever approaching the banquet of useful, quickening knowledge.

I know, sir, these are figures of speech. The mind does not grow by food, nor languish for the want of it; but these similitudes are the only means we have, of discoursing of the intellectual nature. I know not to what else we can better liken the strong appetence of the mind for improvement, than to a hunger and thirst after knowledge and truth; nor how we can better describe the province of education, than to say, it does that for the intellect, which is done for the body, when it receives the care and nourishment which are necessary for its growth, health, and strength. From this comparison, I think I derive new views of the importance of education. It is now a solemn duty, a tender, sacred trust. What! sir, feed a child's body, and let his soul hunger! pamper his limbs, and starve his faculties! Plant the earth,

cover a thousand hills with your droves of cattle, pursue the fish to their hiding places in the sea, and spread out your wheat-fields across the plain, in order to supply the wants of that body, which will soon be as cold and as senseless as their poorest clod, and let the pure spiritual essence within you, with all its glorious capacities for improvement, languish and pine! What! build factories, turn in rivers upon the water-wheels, unchain the imprisoned spirits of steam, to weave a garment for the body, and let the soul remain unadorned and naked! What! send out your vessels to the furthest ocean, and make battle with the monsters of the deep, in order to obtain the means of lighting up your dwellings and workshops, and prolonging the hours of labor for the meat that perisheth, and permit that vital spark, which God has kindled, which He has intrusted to our care to be fanned into a bright and heavenly flame,—permit it, I say, to languish and go out!

I am aware, that I utter these sentiments before an intelligent audience; in the hearing of those who feel the importance of education, and who have exerted themselves to promote it. I wonder not that such should be the case with the inhabitants of this beautiful region. You have continually before your eyes, on your seagirt isle, a standing memorial of the importance of education, taken in its most comprehensive sense, in the now feeble remnant of the race which once covered the island and the main, and ruled and roamed over the continent, from the Atlantic to the Pacific. Where are all the powerful and warlike tribes, that occupied the territory of Massachusetts, and, under the guidance of their brave and intelligent chieftains, waged, at times, a perilous, not to say a doubtful, war, with our fathers? One full moiety of their posterity is comprised in those poor remains, which still find shelter in a corner of Martha's Vineyard, and the neighboring islet. Well may the civilized man, at the present day, inquire, "What maketh thee to differ?" Why has the red man failed, and the white man waxed strong? Why have

we multiplied by thousands and hundreds of thousands, while they have disappeared from plain and hill-side? Why is their light canoe no longer seen, at daybreak, flitting over the waters? Why does the deer no longer bound before them, hardly outstripping them, in the chase? Why are their dusky forms no longer seen gathering at the falls of the rivers, at the season when the salmon and the shad ascend the streams? I know no answer to be given to these questions, but that which is suggested by the train of reflection which I have submitted to you. In most of the capacities and powers of the physical man, they not only equalled, but excelled, the European race. The Indian was trained to uncommon bodily hardihood; to an eye of fire and a frame of iron. In physical vigor and endurance, he was an overmatch for his palefaced rival. But

> "His soul proud Science never taught to stray
> Far as the solar walk or milky way."

His mind was untutored, ignorant of Nature, ignorant of himself. He wanted the arts, and especially the Art of Arts, which gives an image to thought and a record to knowledge. He wanted an alphabetical character, by which he could receive and transmit the accumulated treasures of science; and by which the discoveries and attainments of every man and of every age, are made the common property of every other man in every other period of time.

This the natives of the continent wanted; and, wanting this, their physical endowments were of no avail. Nature, in her terrors and smiles, was the same to them as to us; but they could not interpret either. The same sun rose upon them, as upon us. But to them, it was a ball of fire, rolling through the sky, and sinking in the sea; while to us, it is a glorious luminary, the source of light and motion to the system of worlds, of which it is the head, whose places and motions, observed by the eye of Science, serve as guides to direct the vessels of the white man across the widest sea. The parent earth contained the same deposits and stores, for them, as for

us; but they were untaught to bring cultivation in aid of its productive qualities; untaught to melt the ploughshare and the axe from its solid rocks. They needed, for their preservation, not walls and bulwarks, but the elements of useful knowledge; and had Massasoit or King Philip, and their tribes, possessed those means and instruments of improvement, which are in the hands of your children at school, I know not why they might not have perpetuated their national existence, and borrowed the improvements of our civilization, without sinking under the superiority of our arts and arms. If Providence has been pleased to write the chapter of their destiny in other and darker characters, let us, at least, (while we do all in our power to alleviate their condition,) cherish and respect those means of improvement, to which we owe our happier lot.

ACCUMULATION, PROPERTY, CAPITAL, CREDIT.*

In compliance with your request, gentlemen, I appear before you, this evening, to take a part in the observance of the eighteenth anniversary of the Mercantile Library Association. This meritorious Institution was founded for the purpose of promoting mental improvement, among the young men of the city engaged in commercial pursuits. Its objects were, to form a library, well furnished with books best adapted to their use; to lay the foundation of scientific collections; to make occasional or stated provision for courses of instructive lectures; and to furnish opportunity for exercises in literary composition and debate. It would be superfluous, to offer any labored commendation of an institution of this description. It needs only to be named, in a commercial community, to be regarded with favor. It has already been approved by its good fruits, in the experience of many who have enjoyed its advantages; and has received the most favorable notice from distinguished gentlemen, who, on former anniversaries, have performed the duty which, on the present occasion, has devolved upon me.

Supposing, then, that the usefulness of such an institution is a point too well established, to need illustration, I have thought we should pass our time more profitably, this evening, by devoting our attention to the discussion of a few of the elementary topics connected with commerce, in reference to which there are some prevailing errors, and on which it is important to form correct judgements. These topics are, accumulation, property, capital, and credit; the simple enunciation of which, as the heads of my address, will

* An Address, delivered before the Mercantile Library Association, at the Odeon, in Boston, September 13, 1838.

satisfy this most respectable audience that, without aiming at display, it is my object to assist those before whom I have the honor to appear, in forming right notions on important practical questions. I may also add, that the views presented in a single discourse, on topics so extensive and important, must necessarily be of the most general character.

I. Some attempts have been made, of late years, to institute a comparison between what have been called the producing and the accumulating classes, to the disadvantage of the latter. This view I regard as entirely erroneous. Accumulation is as necessary to further production, as production is to accumulation; and especially is accumulation the basis of commerce. If every man produced, from day to day, just so much as was needed for the day's consumption, there would, of course, be nothing to exchange; in other words, there would be no commerce. Such a state of things implies the absence of all civilization. Some degree of accumulation was the dictate of the earliest necessity; the instinctive struggle of man, to protect himself from the elements and from want. He soon found,—such is the exuberance of Nature, such the activity of her productive powers, and such the rapid developement of human skill,—that a vast deal more might be accumulated, than was needed for bare subsistence.

This, however, alone, did not create commerce. If all men accumulated equally, and accumulated the same things, there would still be no exchanges. But it soon appeared, in the progress of social man, that no two individuals had precisely the same tastes, powers, and skill. One excelled in one pursuit; one, in another. One was more expert as a huntsman; another, as a fisherman; and all found, that, by making a business of some one occupation, they attained a higher degree of excellence, than was practicable, while each one endeavored to do every thing for himself. With this discovery, commerce began. The Indian, who has made two bows, or dressed two bear-skins, exchanges one of

them for a bundle of dried fish, or a pair of snow-shoes. These exchanges, between individuals, extend to communities. The tribes on the seashore exchange the products of their fishing, for the game or the horses of the plains and hills. Each barters what it has in excess, for that which it cannot itself so well produce and which its neighbors possess in abundance. As individuals differ in their capacities, countries differ in soil and climate; and this difference leads to infinite variety of fabrics and productions, artificial and natural. Commerce perceives this diversity, and organizes a boundless system of exchanges, the object of which is, to supply the greatest possible amount of want and desire, and to effect the widest possible diffusion of useful and convenient products. The extent to which this exchange of products is carried, in highly-civilized countries, is truly wonderful. There are probably few individuals, in this assembly, who took their morning's meal, this day, without the use of articles brought from almost every part of the world. The table, on which it was served, may have been made from a tree which grew on the Spanish Main or one of the West-India islands, and covered with a tablecloth from St. Petersburg or Archangel. The tea was from China; the coffee perhaps from Java; the sugar from Cuba or Louisiana; the spoons from Mexico, Peru, or Chili; the cups and saucers from England or France. Each of these articles was purchased by an exchange of other products, the growth of our own or foreign countries, collected and distributed by a succession of voyages, often to the furthest corners of the globe. Without cultivating a rood of ground, we taste the richest fruits of every soil. Without stirring from our fireside, we collect on our tables the growth of every region. In the midst of Winter, we are served with fruits that ripened in a tropical sun; and struggling monsters are dragged from the depths of the Pacific ocean, to lighten our dwellings.

As all commerce rests upon accumulation, so the accumulation of every individual is made by the ex-

changes of commerce to benefit every other. Until he exchanges it, it is of no actual value to him. The tiller of a hundred fields can eat no more, the proprietor of a cloth factory can wear no more, and the owner of a coal mine can sit by no hotter a fire, than his neighbors. He must exchange his grain, his cloth, and his coal, for some articles of their production, or for money, which is the representative of all other articles, before his accumulation is of service to him. The system is one of mutual accommodation. No man can promote his own interest, without promoting that of others. As, in the system of the universe, every particle of matter is attracted by every other particle, and it is not possible that a mote in a sunbeam should be displaced, without producing an effect on the orbit of Saturn, so the minutest excess or defect, in the supply of any one article of human want, produces a proportionate effect on the exchanges of all other articles. In this way, that Providence, which educes the harmonious system of the heavens out of the adjusted motions and balanced masses of its shining orbs, with equal benevolence and care furnishes to the countless millions of the human family, through an interminable succession of exchanges, the supply of their diversified and innumerable wants.

II. In order to carry on this system of exchanges, it is necessary, that the articles accumulated should be safe in the hands of their owners. The laws of society, for the protection of property, were founded upon the early and instinctive observation of this truth. It was perceived, in the dawn of civilization, that the only way in which man could elevate himself from barbarism, and maintain his elevation, was, by being secured in the possession of that which he had saved from daily consumption; this being his resource for a time of sickness, for old age, and for the wants of those dependent upon him; as well as the fund, out of which, by a system of mutually beneficial exchanges, each could contribute to the supply of the wants of his fellow-men. To strike at the principle which protects his earnings

or his acquisitions; to destroy the assurance, that the field, which he has enclosed and planted in his youth, will remain for the support of his advanced years, that the portion of its fruits, which he does not need for immediate consumption, will remain a safe deposit, under the protection of the public peace; is to destroy the lifespring of civilization. The philosophy, that denounces accumulation, is the philosophy of barbarism. It places man below the condition of most of the native tribes on this continent. No man will voluntarily sow, that another may reap. You may place a man in a paradise of plenty, on this condition; but its abundance will ripen and decay, unheeded. At this moment, the fairest regions of the earth,—Sicily, Turkey, Africa, the loveliest and most fertile portions of the East, the regions that, in ancient times, after feeding their own numerous and mighty cities, nourished Rome and her armies,—are occupied by oppressed and needy races, whom all the smiles of heaven and the bounties of the earth cannot tempt to strike a spade into the soil, further than is requisite for a scanty supply of necessary food. On the contrary, establish the principle, that property is safe, that a man is secure in the possession of his accumulated earnings, and he creates a paradise on a barren heath; Alpine solitudes echo to the lowing of his herds; he builds up his dikes against the ocean, and cultivates a field beneath the level of its waves; and exposes his life, fearlessly, in sickly jungles, and among ferocious savages. Establish the principle, that his property is his own, and he seems almost willing to sport with its safety. He will trust it all in a single vessel, and stand calmly by, while she unmoors for a voyage of circumnavigation around the globe. He knows that the sovereignty of his country accompanies it with a sort of earthly omnipresence, and guards it as vigilantly, on the loneliest island of the Antarctic sea, as though it were locked in his coffers, at home. He is not afraid to send it out upon the common pathway of the ocean, for he knows, that the sheltering

wings of the law of nations will overshadow it there. He sleeps quietly, though all that he has is borne upon six inches of plank on the bosom of the unfathomed waters; for, even if the tempest should bury it in the deep, he has assured himself against ruin, by the agency of those institutions, which modern civilization has devised for the purpose of averaging the losses of individuals upon the mass.

III. It is usual to give the name of capital to those accumulations of property, which are employed in carrying on the commercial as well as the other business operations of the community. The remarks already made will enable us to judge, in some degree, of the reasonableness of those prejudices which are occasionally awakened, at the sound of this word. Capital is property, which a man has acquired by his industry, or has, under the law of the land, become possessed of in some other way; and which is invested by him, in that form, and employed in that manner, which best suit his education, ability, and taste. No particular amount of property constitutes capital. In a highly-prosperous community, the capital of one man, like the late Baron Rothschild, at London, or of Stephen Girard, at Philadelphia, may amount to eight or ten millions; the capital of his neighbor may not exceed as many dollars. In fact, the last of these two extraordinary men, and the father of the first, passed from one extreme to the other, in this scale of prosperity; and the same law which protected their little pittance, at the outset, protected the millions amassed by their perseverance, industry, and talent.

Considering capital as the mainspring of the business operations of civilized society,—as that, which, diffused in proportionate masses, is the material on which enterprise works, and with which industry performs its wonders, equally and in the same way necessary, for the construction of a row-boat and an Indiaman, a pair of shoes and a rail-road,—I have been at some loss to account for the odium which, at times, has been attempt-

ed to be cast on capitalists, as a class; and particularly for the contrast in which capital has been placed with labor, to the advantageous employment of which it is absolutely essential.

I have supposed, that some part of this prejudice may arise from the traditions of other times, and the institutions of other countries. The roots of opinion run deep into the past. The great mass of property in Europe, at the present day, even in England, is landed property. This property was much of it wrested from its original owners, by the ancestors of its present possessors, who overran the countries with military violence, and despoiled the inhabitants of their possessions; or, still worse, compelled them to labor, as slaves, on the land which they had once owned and tilled, as free men. It is impossible, that an hereditary bitterness should not have sprung out of this relation, never to be mitigated, particularly where the political institutions of society remain upon a feudal basis. We know, from history, that, after the Norman invasion, the Saxon peasantry, reduced to slavery, were compelled to wear iron collars about their necks, like dogs, with the names of their masters inscribed upon them. At what subsequent period, from that time to this, has any thing occurred, to alleviate the feelings growing out of these events? Such an origin of the great mass of the property must place its proprietors in some such relation to the rest of the community as that, which exists between the Turks and Rayas, in the Ottoman empire, and may have contributed to produce an hereditary hostility, on the part of the poor, toward the rich, among thousands who know not historically the origin of the feeling.

It is obvious, that the origin of our political communities, and the organization of society among us, furnish no basis for a prejudice, of this kind, against capital. Wealth, in this Country, may be traced back to industry and frugality; the paths which lead to it are open to all; the laws which protect it are equal to

all; and such is the joint operation of the law and the customs of society, that the wheel of fortune is in constant revolution, and the poor, in one generation, furnish the rich of the next. The rich man, who treats poverty with arrogance and contempt, tramples upon the ashes of his father or his grandfather; the poor man, who nourishes feelings of unkindness and bitterness against wealth, makes war with the prospects of his children, and the order of things in which he lives.

A moment's consideration will show the unreasonableness of a prejudice against capital; for it will show that it is the great instrument of the business movements of society. Without it, there can be no exercise, on a large scale, of the mechanic arts, no manufactures, no private improvements, no public enterprises of utility, no domestic exchanges, no foreign commerce. For all these purposes, a twofold use of capital is needed. It is necessary, that a great many persons should have a portion of capital; as, for instance, that the fisherman should have his boat; the husbandman, his farm, his buildings, his implements of husbandry, and his cattle; the mechanic, his shop and his tools; the merchant, his stock in trade. But these small masses of capital are not, alone, sufficient for the highest degree of prosperity. Larger accumulations are wanted, to keep the smaller capitals in steady movement, and to circulate their products. If manufactures are to flourish, a very great outlay in buildings, fixtures, machinery, and power, is necessary. If internal intercourse is to diffuse its inestimable moral, social, and economical, blessings through the land, canals, rail-roads, and steam-boats, are to be constructed, at vast expense. To effect these objects, capital must go forth, like a mighty genius, bidding the mountains to bow their heads, and the valleys to rise, the crooked places to be straight, and the rough places plain. If agriculture is to be perfected, costly experiments in husbandry must be instituted, by those who are able to ad-

vance, and can afford to lose, the funds, which are required for the purpose. Commerce, on a large scale, cannot flourish, without resources adequate to the construction of large vessels, and their outfit for long voyages and the exchange of valuable cargoes.

The eyes of the civilized world are intently fixed upon the experiments, now making, to navigate the Atlantic by steam. It is said, that the Great Western was built and fitted out at an expense of near half a million of dollars. The success of the experiment will be not more a triumph of genius and of art, than of capital. The first attempts at the whale-fishery, in Massachusetts, were made from the South Shore and the island of Nantucket, by persons who went out in small boats, killed their whale, and returned, the same day. This limited plan of operations was suitable for the small demands of the infant population of New England. But the whales were soon driven from the coast; the population increased; and the demand for the product of the fisheries proportionably augmented. It became necessary to apply larger capitals to the business. Whale-ships were now fitted out, at considerable expense, which pursued this adventurous occupation from Greenland to Brazil. The enterprise, thus manifested, awoke the admiration of Europe, and is immortalized in the wellknown description by Burke. But the business has grown, until the ancient fishing-grounds have become the first stations, on a modern whaling voyage; and capitals are now required, sufficient to fit out a vessel for an absence of forty months, and a voyage of circumnavigation. Fifty thousand dollars are invested in a single vessel; she doubles Cape Horn, ranges from New South Shetland to the coasts of Japan, cruises in unexplored latitudes, stops, for refreshment, at islands before undiscovered, and, on the basis, perhaps, of the capital of an individual house, in New Bedford, or Nantucket, performs an exploit, which, sixty or seventy years ago, was thought a great object to be effected by the resources of the British

government. In this branch of business, a capital of twelve or fifteen millions of dollars is invested.* Its object is, to furnish us a cheap and commodious light, for our Winter evenings. The capitalist, it is true, desires an adequate interest on his investment; but he can only get this, by selling his oil at a price, at which the public are able and willing to buy it. The "overgrown capitalist," employed in this business, is an overgrown lamplighter. Before he can pocket his six per cent., he has trimmed the lamp of the cottager, who borrows an hour from evening, to complete her day's labor, and has lighted the taper of the pale and thought-worn student, who is "outwatching the bear," over some ancient volume.

In like manner, the other great investments of capital, whatever selfish objects their proprietors may have, must, before that object can be attained, have been the means of supplying the demand of the people for some great article of necessity, convenience, or indulgence. This remark applies peculiarly to manufactures carried on by machinery. A great capital is invested in this form, though mostly in small amounts. Its owners, no doubt, seek a profitable return; but this they can attain in no other way, than by furnishing the community with a manufactured article of great and extensive use. Strike out of being the capital invested in manufactures, and you lay upon society the burden of doing, by hand, all the work which was done by steam and water, by fire and steel; or it must forego the use of the articles manufactured. Each result would, in some measure, be produced. A much smaller quantity of manufactured articles would be consumed, that is, the community would be deprived of comforts they now enjoy; and those used would be produced at greater cost, by man-

* A writer, who appears to understand the subject thoroughly, in an article in the North American Review, for January, 1834, calculates, that a capital of twelve millions of dollars is employed in carrying on the whale fishery, and that an amount of seventy millions of dollars is directly or remotely involved in it.

ual labor. In other words, fewer people would be sustained, and those less comfortably, and at greater expense.

When we hear persons condemning accumulations of capital, employed in manufactures, we cannot help saying to ourselves, is it possible that any rational man can desire to stop those busy wheels, to paralyze those iron arms, to arrest that falling stream which works while it babbles? What is your object? Do you wish wholly to deprive society of the fruit of the industry of these inanimate but untiring laborers? Or, do you wish to lay on aching human shoulders the burdens, which are so lightly borne by these patient metallic giants?* Look at Lowell. Behold the palaces of her industry, side by side with her churches and her schoolhouses, the long lines of her shops and warehouses, her streets filled with the comfortable abodes of an enterprising, industrious, and intelligent, population. See her fiery Samsons, roaring along her rail-road, with thirty laden cars in their train. Look at her watery Goliaths, not wielding a weaver's beam, like him of old, but giving motion to hundreds and thousands of spindles and looms. Twenty years ago, and two or three poor farms occupied the entire space within the boundaries of Lowell. Not more visibly, I had almost said not more rapidly, was the palace of Aladdin, in the Arabian tales, constructed by the Genius of the Lamp, than this noble city of the arts, has been built by the genius of capital. This capital, it is true, seeks a moderate interest on the investment; but it is by furnishing, to all who desire it, the cheapest garment ever worn by civilized man. To denounce the capital which has been the agent of this wonderful and beneficent creation; to wage war with a system which has spread and is spreading plenty throughout the Country,—what is it, but to play, in

* At the time this Address was delivered, I was unacquainted with the little work entitled 'John Hopkins's Notions on Political Economy,' where the same comparison of machines to giants is very ingeniously pursued.

real life, the part of the malignant sorcerer, in the same Eastern tale, who, potent only for mischief, utters the baleful spell which breaks the charm, heaves the mighty pillars of the palace from their foundation, converts the fruitful gardens back to their native sterility, and heaps the abodes of life and happiness with silent and desolate ruins?

It is hardly possible to realize the effects on human comfort of the application of capital to the arts of life. We can fully do this, only by making some inquiry into the mode of living in civilized countries, in the middle ages. The following brief notices, from Mr. Hallam's learned and judicious work,* may give us some distinct ideas on the subject. Up to the time of Queen Elizabeth, in England, the houses of the farmers in that Country consisted of but one story and one room. They had no chimneys. The fire was kindled on a hearth of clay, in the centre, and the smoke found its way out through an aperture in the roof, at the door, and the openings at the side for air and light. The domestic animals,—even oxen,—were received under the same roof with their owners. Glass windows were unknown, except in a few lordly mansions, and in them they were regarded as movable furniture. When the dukes of Northumberland left Alnwick castle, to come to London, for the Winter, the few glass windows, which formed one of the luxuries of the castle, were carefully taken out, and laid away, perhaps carried to London, to adorn the city residence. The walls of good houses were neither wainscoated nor plastered. In the houses of the nobility, the nakedness of the walls was covered by hangings of coarse cloth. Beds were a rare luxury. A very wealthy individual would have one or two in his house; rugs and skins laid upon the floor were the substitute. Neither books nor pictures formed any part of the furniture of a dwelling, in the middle ages; as printing and engraving were wholly unknown, and painting but

* State of Europe during the Middle Ages.

little practised. A few inventories of furniture, dating from the fifteenth century, are preserved. They afford a striking evidence of the want of comfort and accommodation in articles accounted by us among the necessaries of life. In the schedule of the furniture of a Signor Contarini, a rich Venetian merchant, living in London, in 1481, no chairs nor looking-glasses are named. Carpets were unknown, at the same period: their place was supplied by straw and rushes, even in the presence-chamber of the Sovereign. Skipton castle, the principal residence of the earls of Cumberland, was deemed amply provided, in having eight beds, but had neither chairs, glasses, nor carpets. The silver-plate of Mr. Fermor, a wealthy country gentleman, at Easton, in the sixteenth century, consisted of sixteen spoons, and a few goblets and ale-pots. Some valuations of stock-in-trade, in England, from the beginning of the fourteenth century, have been preserved. A carpenter's consisted of five tools, the whole valued at a shilling; a tanner's, on the other hand, amounted to near ten pounds, ten times greater than any other; tanners being, at that period, principal tradesmen, as almost all articles of dress for men were made of leather.

We need but contrast the state of things, in our own time, with that which is indicated in these facts, to perceive the all-important influence, on human comfort, of the accumulation of capital, and its employment in the useful arts of life. As it is out of the question, for the government to invest the public funds in the branches of industry, necessary to supply the customary wants of men, it follows, that this must be done by private resources and enterprise. The necessary consequence is, that the large capital, required for these operations, must be furnished by the contributions of individuals, each possessing a portion of the stock, or by a single proprietor.

However furnished, it is plain that the interest of the capitalist is identical with that of the community. Nobody hoards; every thing is invested or employed, and,

directly or indirectly, is the basis of business operations.

It is true, that when one man uses the capital of another, he is expected to pay something for this privilege. But there is nothing unjust or unreasonable in this. It is inherent in the idea of property. It would not be property, if I could take it from you, and use it as my own, without compensation. That simple word, it is *mine*, carries with it the whole theory of property and its rights. If my neighbor has saved his earnings, and built him a house, and I ask his leave to go and live in it, I ought, in justice, to pay him for the use of his house. If, instead of using his money to build a house, in which he permits me to live, he loans me his money, with which I build a house for myself, it is equally just that I should pay him for the use of his money. It is his, not mine. If he allows me to use the fruit of his labor or skill, I ought to pay him for that use, as I should pay him, if he came and wrought for me with his hands. This is the whole doctrine of interest. In a prosperous community, capital can be made to produce a greater return than the rate of interest fixed by law. The merchant, who employs the whole of his capital in his own enterprises, and takes all the profit to himself, is commonly regarded as a useful citizen; and it would seem unreasonable, to look with a prejudiced eye upon the capitalist, who allows all the profits of the business to accrue to others, asking only legal interest for his money which they have employed.

Without, however, pursuing this comparison among different classes of capitalists, let us further endeavor, by an example, to illustrate the question, whether they ought, in any view, to be regarded as exerting an unfriendly influence on the labors of the community. Take, for instance, such a case as Mr. Stephen Girard, a great capitalist, who united in his person the merchant and the banker, and who may be spoken of plainly, as he has passed away, the solitary man, and left no one to be grieved with the freedoms which are taken with

his memory. This remarkable person began life, without a farthing, and left behind him a property, whose actual value amounted to seven or eight millions of dollars, and this acquired in the latter half of his life. He told me, himself, that, at the age of forty, his circumstances were so narrow, that he was employed as the commander of his own sloop, engaged in the coasting trade between New York or Philadelphia and New Orleans; adding, that, on a certain occasion, he was forty-five days in working his way up from the Balize to the city. Few persons, I believe, enjoyed less personal popularity in the community in which he lived, and to which he bequeathed his princely fortune. If this proceeded from defects of personal character, it is a topic which we have no occasion to discuss here. We are authorized only to speak of the effect, upon the public welfare, of the accumulation of such a fortune in one man's hands. While I am far from saying that it might not have been abused, by being made the instrument of a corrupt and dangerous influence in the community, I have never heard that it was so abused, by Mr. Girard; and, on general principles, it may perhaps be safely said, that the class of men qualified to amass large fortunes, by perseverance and exclusive devotion to business, by frugality and thrift, are not at all likely to apply their wealth to ambitious or corrupt designs. As to the effect, in all other points of view, I confess I see nothing but public benefit in such a capital, managed with unrelaxing economy; one half judiciously employed by the proprietor himself, in commerce; the other half loaned to the business community. What better use could have been made of it? Will it be said, divide it equally among the community; give each individual in the United States a share? It would have amounted to half a dollar, each, for man, woman, and child; and, of course, might as well have been sunk in the middle of the sea. Such a distribution would have been another name for annihilation. How many ships would have furled their sails, how many warehouses

would have closed their shutters, how many wheels, heavily laden with the products of industry, would have stood still, how many families would have been reduced to want, and without any advantage resulting from the distribution!

Let me not be misunderstood. I regard equality of condition and fortune as the happiest state of society, and those political institutions as immeasurably the wisest and best, which tend to produce it. All laws, which have for their object to perpetuate large estates, and transmit them from generation to generation, are at war with the constitution of man. Providence has written a statute of distributions on the face of Nature and the heart of man; and, whenever its provisions are contravened by political enactments, a righteous conspiracy to subvert them springs up in the very elements of our being. My proposition is only, that, in a country like this, where the laws forbid hereditary transmission, and encourage equality of fortune, accumulations of capital made by industry, enterprise, and prudence, employed in active investments, without ministering to extravagance and luxury, are beneficial to the public. Their possessor becomes, whether he wills it or not, the steward of others; not merely, as in Mr. Girard's case, because he may destine a colossal fortune, after his decease, for public objects, but because, while he lives, every dollar of it must be employed in giving life to industry and employment to labor. Had Mr. Girard lived in a fashionable part of the city, in a magnificent house; had he surrounded himself with a troop of liveried domestics; had he dazzled the passers-by with his splendid equipages, and spread a sumptuous table for his "dear five hundred friends," he would, no doubt, have been a more popular man. But, in my apprehension, he appears to far greater advantage, as a citizen and a patriot, in his modest dwelling and plain garb, appropriating to his personal wants the smallest pittance from his princely income; living, to the last, in the dark and narrow street in which he made his for-

tune, and, when he died, bequeathing it for the education of orphan children. For the public, I do not know that he could have done better; of all the men in the world, he probably derived the least enjoyment from his property, himself.

IV. I have left myself scarce any room to speak on the subject of credit. The legitimate province of credit is, to facilitate and to diffuse the use of capital, and not to create it. I make this remark with care; because views prevail on this subject, exaggerated and even false, which, carried into the banking system, have done infinite mischief. I have no wish, whatever, to depreciate the importance of credit. It has done wonders for this Country. It has promoted public and private prosperity; built cities, cleared wildernesses, and bound the remotest parts of the continent together, by chains of iron and gold. These are wonders, but not miracles; these effects have been produced, not without causes. Trust and confidence are not gold and silver; they command capital, but they do not create it. A merchant, in active business, has a capital of twenty thousand dollars; his credit is good; he borrows as much more; but let him not think he has doubled his capital. He has done so only in a very limited sense. He doubles the sum on which, for a time, he trades; but he has to pay back the borrowed capital, with interest; and that, whether his business has been prosperous or adverse. Still, I am not disposed to deny, that, with extreme prudence and good management, the benefit to the individual, of such an application of credit, is great; and when individuals are benefited, the public is benefited. But no capital has been created. Nothing has been added to the preexisting stock. It was in being, the fruit of former accumulation. If he had not borrowed it, it might have been used, by its owner, in some other way. What the public gains is, the superior activity that is given to business, by bringing more persons, with a greater amount and variety of talent, into action.

These benefits, public and private, are not without some counterbalancing risks; and, with the enterprising habits and ardent temperament of our countrymen, I should deem the formation of sound and sober views, on the subject of credit, one of the most desirable portions of the young merchant's education. The eagerness to accumulate wealth, by trading on credit, is the disease of the age and Country in which we live. Something of the solidity of our character and purity of our name has been sacrificed to it. Let us hope that the recent embarrassments of the commercial world will have a salutary influence in repressing this eagerness. The merchants of the Country have covered themselves with lasting honor, abroad, by the heroic fidelity with which they have, at vast sacrifices, fulfilled their obligations. Let us hope that, hereafter, they will keep themselves more beyond the reach of the fluctuations in business, and the vicissitudes of affairs.

But it is time to close these general reflections. We live at a period, when the commerce of the world seems touching a new era; a developement of energies before unconceived. Columbus discovered a new continent; modern art has diminished, by one half, its distance from the old world. The application of steam to the navigation of the ocean seems about to put the finishing hand to that system of accelerated communication, which began with steam-boats along the coast, and canals and rail-roads piercing the interior. The immediate effect of this improvement must be, a vast increase of the intensity of international communication. The ultimate result can be but dimly foreseen. Let us trust that it will give renewed vigor to the march of civilization; that it will increase the comforts of those who now enjoy its blessings, and extend these blessings to the forlorn children of the human family, who are, at present, deprived of them.

Whatever may take place, in this respect; whether or not the navigation of the Atlantic Ocean, by steam-vessels, is to be generally adopted, as the mode of com-

munication; commerce, no doubt, in virtue of other causes, of ascertained and unquestioned operation, is on the eve of acquiring an activity, beyond all previous example. As, in all former ages, it has been one of the most powerful agents, in shaping the destinies of the human race, it is unquestionably reserved for still higher functions. I confess, that I look, myself, for some great results, to be produced by the new forces in motion around us. When we contemplate the past, we see some of the most important phenomena in human history, intimately, I had almost said mysteriously, connected with commerce. In the very dawn of civilization, the art of alphabetical writing sprang up among a commercial people. One can almost imagine that these wonderfully convenient elements were a kind of shorthand, which the Phœnician merchants, under the spur of necessity, contrived, for keeping their accounts; for what could they have done with the hieroglyphics of the Egyptian priesthood, applied to the practical purposes of a commerce which extended over the known world, and of which we have preserved to us such a curious and instructive description, by the Prophet Ezekiel?* A thousand years later, and the same commercial race, among whom this sublime invention had its origin, performed a not less glorious part, as the champions of freedom. When the Macedonian madman† commenced his crusade against Asia, the Phœnicians opposed the only vigorous resistance to his march. The Tyrian merchants delayed him longer, beneath the walls of their seagirt city, than Darius, at the head of all the armies of the East. In the succeeding centuries, when the dynasties, established by Alexander, were crumbling, and the Romans, in turn, took up the march of universal conquest and dominion, the commercial city of Carthage, the daughter of Tyre, afforded the most efficient check to their progress. But there

* Chapter xxvii.

† Alexander the Great.

was nowhere sufficient security of property, in the Old World, to form the basis of a permanent commercial prosperity. In the middle ages, the iron yoke of the feudal system was broken by commerce. The emancipation of Europe, from the detestable sway of the barons, began with the privileges granted to the cities. The wealth, acquired in commerce, afforded the first counterpoise to that of the feudal chiefs who monopolized the land, and, in the space of a century and a half, gave birth to a new civilization. In the west of Europe, the Hanse towns; in the east, the cities of Venice, Genoa, the ports of Sicily and Naples, Florence, Pisa, and Leghorn; begin to swarm with active crowds. The Mediterranean, deserted for nearly ten centuries, is covered with vessels. Merchants from the Adriatic explore the furthest East: silks, spices, gums, gold, are distributed from the Italian cities through Europe; and the dawn of a general revival breaks on the world. Nature, at this juncture, discloses another of those mighty mysteries, which man is permitted, from age to age, to read in her awful volume. As the fulness of time approaches for the new world to be found, it is discovered that a piece of steel may be so prepared, that it will point, a steady index, to the pole. After it had led the adventurers of Italy, Spain, and Portugal, to the utmost limits of the old world, from Iceland to the south of Africa, the immortal Discoverer,* with the snows and the sorrows of near sixty years upon his head, but with the fire of immortal youth in his heart, placed himself under the guidance of the mysterious pilot, bravely followed its mute direction through the terrors and the dangers of the unknown sea, and called a new hemisphere into being.

It would be easy to connect with this discovery, almost all the great events of modern history, and, still more, all the great movements of modern civilization. Even in the colonization of New England, although, more than almost any other human enterprise, the off-

* Columbus.

spring of the religious feeling, commercial adventure opened the way and furnished the means. As time rolled on, and events hastened to their consummation, commercial relations suggested the chief topics in the great controversy for liberty. The British Navigation Act was the original foundation of the Colonial grievances. There was a constant struggle to break away from the limits of the monopoly, imposed by the mother country. The American navigators could find no walls nor barriers on the face of the deep, and they were determined that paper and parchment should not shut up what God had thrown open. The moment the War of Independence was over, the commercial enterprise of the Country went forth, like an uncaged eagle, who, having beaten himself, almost to madness, against the bars of his prison, rushes out, at length, to his native element, and exults, as he bathes his undazzled eye in the sunbeam, or pillows his breast upon the storm. Our merchants were far from contenting themselves with treading obsequiously in the footsteps even of the great commercial nation from which we are descended. Ten years had not elapsed, from the close of the Revolutionary War, before the infant commerce of America had struck out for herself a circuit, in some respects broader and bolder than that of England. Besides penetrating the remotest haunts of the commerce, heretofore carried on by the trading nations of Europe,—the recesses of the Mediterranean, the Baltic, and the White, seas,—she displayed the Stars and the Stripes in distant oceans, where the Lion and the Lilies never floated. She not only engaged with spirit in the trade with Hindostan and China, which had been thought to be beyond the grasp of individual capital and enterprise, but she explored new markets, on islands and coasts before unapproached by modern commerce.

Such was the instantaneous expansion of the youthful commerce of America. The belligerent condition of Europe, for a time, favored the enterprise of our merchants; wealth began to pour into their coffers; and

they immediately took that place in the community, to which events and the condition of the Country called them. Independence found us, in a great measure, destitute of public establishments; the eyes of the people were unconsciously turned to the merchants, as the chief depositaries of large masses of disposable wealth; and they promptly stood forth, as public benefactors. It may certainly be said, without adulation, that the merchants of Massachusetts have sustained this character as honorably, as their fellow-citizens in any part of the Union. In all the great enterprises for public improvement, in all our establishments for religious, moral, literary, and charitable, purposes, the genial patronage of commerce has been steadily felt. Our merchants have, indeed, been princes, in the pure and only republican sense of the word, in bestowing princely endowments on the public institutions; and to him, who asks for the monuments of their liberality, we may say, as of the architect of St. Paul's, "Look around you." In every part of the Old World, except England, the public establishments, the foundations for charity, education, and literary improvement, have been mostly endowed by the Sovereign; and costly private edifices are generally the monuments of an opulence, which had its origin in feudal inequality. If displays of wealth are witnessed in our cities, it is wealth originally obtained by frugality and enterprise, and of which a handsome share has been appropriated to the endowment of those charitable and philanthropic institutions, which are the distinguishing glory of modern times.

To understand the character of the commerce of our own city, we must not look merely at one point, but at the whole circuit of country, of which it is the business centre. We must not contemplate it only at this present moment of time, but we must bring before our imaginations, as in the shifting scenes of a diorama, at least three successive historical and topographical pictures; and truly instructive I think it would be, to see them delineated on canvass. We must survey the first

of them in the company of the venerable John Winthrop, the founder of the State. Let us go up with him, on the day of his landing, the seventeenth of June, 1630, to the heights of yonder peninsula, as yet without a name. Landward, stretches a dismal forest; seaward, a waste of waters, unspotted with a sail, except that of his own ship. At the foot of the hill, you see the cabins of Walford and the Spragues, who, the latter a year before, the former still earlier, had adventured to this spot, untenanted, else, by any child of civilization. On the other side of the river, lies Mr. Blackstone's farm. It comprises three goodly hills, converted, by a springtide, into three wood-crowned islets; and it is mainly valued for a noble spring of fresh water, which gushes from the northern slope of one of these hills, and which furnished, in the course of the Summer, the motive for transferring the seat of the infant settlement. This shall be the first picture.

The second shall be contemplated from the same spot, the heights of Charlestown, on the same day, the eventful seventeenth of June, one hundred and forty-five years later, namely, in the year 1775. A terrific scene of war rages on the top of the hill. Wait for a favorable moment, when the volumes of fiery smoke roll away, and over the masts of that sixty-gun ship, whose batteries are blazing upon the hill, you behold Mr. Blackstone's farm changed to an ill-built town, of about two thousand dwellinghouses, mostly of wood, with scarce any public buildings but eight or nine churches, the old State House, and Faneuil Hall; Roxbury, beyond, an insignificant village; a vacant marsh, in all the space now occupied by Cambridgeport and East Cambridge, by Chelsea and East Boston; and beneath your feet, the town of Charlestown, consisting, in the morning, of a line of about three hundred houses, wrapped in a sheet of flames at noon, and reduced, at eventide, to a heap of ashes.

But those fires are kindled on the altar of liberty. American Independence is established. American com-

merce smiles on the spot; and now, from the top of one of the triple hills of Mr. Blackstone's farm, a stately edifice arises, which seems to invite us, as to an observatory. As we look down from this lofty structure, we behold the third picture: a crowded, busy scène. We see, beneath us, a city, containing eighty or ninety thousand inhabitants, and mainly built of brick and granite. Vessels, of every description, are moored at the wharfs. Long lines of commodious and even stately houses cover a space which, within the memory of man, was in a state of nature. Substantial blocks of warehouses have forced their way to the channel. Faneuil Hall itself, the consecrated and unchangeable, has swelled to twice its original dimensions. Athenæums, hospitals, asylums, and infirmaries, adorn the streets. The schoolhouse rears its modest front, in every quarter of the city, and sixty or seventy churches attest that the children are content to walk in the good old ways of their fathers. Connected with the city, by eight bridges, avenues, or ferries, you behold a range of towns, most of them municipally distinct, but all of them, in reality, forming, with Boston, one vast metropolis, animated by one commercial life. Shading off from these, you see that most lovely back-ground, a succession of happy settlements, spotted with villas, farmhouses and cottages; united to Boston by a constant intercourse; sustaining the capital, from their fields and gardens, and prosperous in the reflux of the city's wealth. Of the social life included within this circuit, and of all that in times past has adorned and ennobled it, commercial industry has been an active element, and has exalted itself by its intimate association with every thing else we hold dear.

Within this circuit, what memorials strike the eye; what recollections; what institutions; what patriotic treasures, and names that cannot die! There, lie the canonized precincts of Lexington and Concord; there, rise the sacred heights of Dorchester and Charlestown; there, is Harvard, the ancient and venerable, fosterchild

of public and private liberality, in every part of the State; to whose existence Charlestown gave the first impulse, to whose growth and usefulness the opulence of Boston has, at all times, ministered with open hand. Still further on than the eye can reach, four lines of communication, by rail-road and steam, have, within our own day, united with the capital, by bands of iron, a still broader circuit of towns and villages. Hark, to the voice of life and business which sounds along the lines! While we speak, one of them is shooting onward to the illimitable West, and all are uniting with the other kindred enterprises, to form one harmonious and prosperous whole, in which town and country, agriculture and manufactures, labor and capital, art and Nature,—wrought and compacted into one grand system,—are constantly gathering and diffusing, concentrating and radiating, the economical, the social, the moral, blessings, of a liberal and diffusive commerce.

In mere prosperity and the wealth it diffuses, there is no ground for moral approbation; though, I believe, in any long period of time, it will be found that those communities, only, are signally prosperous, where virtuous principle is revered, as the rule of conduct. It is the chief glory of our commercial community, that the old standard of morals is still kept up; that industry and frugality are still held in honorable repute; that the rage for speculation has not eaten out the vitals of character, and that lucky fraud, though plated stiff with ill-gotten treasure, dare not yet lift up its bold, unblushing face, in the presence of the humblest man who eats the bread of honest industry.

So may it still remain; and let it still be your object, gentlemen of the Mercantile Library Association, to uphold this well-approved character of our ancient metropolis. Never let the mere acquisition of wealth be an exclusive pursuit. Consider it of tenfold importance, to manifest, in all the transactions of life, that quick sense of honor, "which feels a stain like a wound," and that integrity, which the mines of Peru could not bend

from the path of principle. Let wealth be regarded as the instrument of doing, as well as of enjoying, good. In a republican government, the mercantile class, in the natural course of things, is the only one whose members, generally speaking, can amass fortune; let it be written on your hearts, in the morning of life, that wealth is ennobled only in its uses. Form, from the first, a large conception of the character of the liberal and upright merchant. Regard him as one, to whom the Country looks to sustain her honor, in the hour of trial; to uphold her public establishments, to endow her charities, to be the father of her orphans: as one whom no success will make ashamed of his vocation; who will adorn his days of prosperity with moderation and temper; and hold fast his integrity, though fortunes turn to ashes in his grasp. Improve the opportunities for cultivating your minds, which this Institution presents, never greater than at this season; and the still further and peculiar opportunities for mental improvement, which will shortly be placed within the reach of the young men of Boston, in consequence of the recent munificent bequest of Mr. Lowell. The keys of knowledge are in your hands; the portals of her temple are open to you. On the shelves of her libraries, there are stores of information, which, besides contributing to your success in your calling, will give grace to good fortune, and comfort and resource in disaster.

Above all, while you pursue, with spirit, the business of your vocation, and follow the paths of enterprise to the ends of the earth, let a well-instructed conscience be the companion of your way. Her guidance will safely lead you, when calculation is bewildered and prudence is at fault. Though your hope, in all else, be blasted, fail not, my young friends, to acquire the pearl of great price, that wisdom, whose merchandise is better than the merchandise of silver, and the gain thereof than fine gold. Let this be the object of your life; and, while the guilty glories of war are deprecated by mankind, and the weary honors of successful ambition

weigh like lead on the wearer, you will enjoy, in the esteem and gratitude of the community and the peace of your own minds, the happy portion of THE LIBERAL AND UPRIGHT MERCHANT.

THE IMPORTANCE OF EDUCATION IN A REPUBLIC.*

Mr. President,—I rise, at the particular request of the Secretary of the Board, and in compliance with the wishes of other respected friends of Education, to express to you the thoughts which occur to me, on the great subject now under our consideration, and more especially, on the Resolution which has just been read. I do not come prepared to discuss the proposition which it contains, in a maturely-digested discourse. My object, only, is to offer to you, and this large and respected audience, the thoughts, somewhat desultory, which present themselves to my mind, on the principle advanced in the Resolution; and if I can do no more, I shall be well contented with having offered to the Convention this public testimony of the interest I take in the cause.

I will observe, in the first place, that, without designing any thing like adulation of our native State, we may claim for it the credit of having made provision for education, from the earliest period of its settlement. The small New-England republics, and especially Massachusetts, have been, in point of time, far in advance of the older governments of the world, in systematic provision for the education of the people, at the public expense. In setting this example, we have certainly paid back to Europe no small part of the debt of civilization. I regard this hereditary care for education as a precious portion of our moral birthright, and I trust we shall transmit it, unimpaired, to afterages.

I would gladly believe, nay, I do firmly believe, that

* The following Remarks, in substance, were made at a County Common School Convention, held in Taunton, Massachusetts, on the 10th October, 1838, when a Resolution was under consideration, which asserted the connexion between public intelligence and a republican form of government.

this attention,—which, in this Country, has never been withheld from education, and which, of late, I am rejoiced to say, has greatly increased,—does not manifest itself in an accidental, far less, uncongenial, association, with that general interest in political affairs, which also characterizes our communities, and springs from popular institutions. On the contrary, in the view I take of the subject, a country, possessed of such institutions, is precisely that where education is most important; where alone it is absolutely necessary, for carrying on the system of government, and keeping up its natural healthy action. It is, of course, in such a country, that we should most expect, from the people, an enlightened and vigilant care of education.

There are two simple plans of government; on which, either pure and without qualification, or with some admixture of the two principles, all constitutions are constructed. One of them asserts, that the people are the rightful source of power, both ultimate and direct; the other denies this proposition. When Charles the First stood upon the scaffold, and a moment before he laid his head upon the block, so firm was his faith in the last-named principle, that he declared, with his dying breath, that "the people's right was only to have their life and their goods their own, a share in the government being nothing pertaining to them." The other plan is announced, in clear terms, in the Constitution of Massachusetts: "The people of this Commonwealth have the sole and exclusive right of governing themselves, as a free, sovereign, and independent, State."

Now, it might be thought, that, even on the theory of government which Charles sealed with his blood, education would be deemed a great popular interest, as teaching the methods, and furnishing some of the means, of preserving life and acquiring property, which he admitted to be within the right of the people. It does not appear, however, that, at that time, nor till long after, this right was understood as imposing any correla-

tive duty on the prince; consequently, such a thing, as a scheme of popular education, at that time, was unthought of. It is not, certainly, my intention to intimate, that there was no education in England, before the Revolution of 1688, but such as was compatible with the spirit and policy of a purely arbitrary government. There was always a temperament of popular institutions in the British monarchy, inviting and forcing the minds of men, in various ways, to improvement and progress. The administration of affairs had never, in practice, for any long period of time, been brought down to the platform of Oriental despotism, to which the theory of Charles the First reduced it.

There were always parliaments, courts of justice, and juries, in the worst of times. The universities were seats of scholastic learning, and the practice of dispensing religious instruction, from the pulpit, forced upon the Church a certain kind of popular education; but I suppose it was obtained at schools, provided by pious and charitable individuals. Nothing resulted from the theory of the government, but that the Prince, and those associated with him, required the advantages of education, to fit them for the administration of affairs. Accordingly, we find, that, with the popular reforms which have been made in the government of England, in modern times, and especially in our own day, attention has been given, for the first time, to National education. The best efforts of the Broughams and Wyses have been strenuously made in this cause; and I learn, with satisfaction, from a distinguished gentleman from that Country, who is now present with us, (Mr. George Combe, of Edinburgh,) that a greatly-increased interest in the subject has marked the progress of the political reforms of a recent date, in the land of our fathers. In like manner, in France, every thing that has been done for popular education, by the enlightened zeal and labors of M. Cousin and its other distinguished friends in that Country, dates from the period of the political reforms of the government of the Country. It

reflects lasting credit on the Prussian monarchy, that, without admitting the people to an efficient share in the government, it has had the wisdom and the courage to bestow upon them an admirable system of public education.

But, on the plan of government established in the United States, where the people are not only in theory the source of power, but in practice are actually called upon, constantly, to take an efficient part in constituting and administering the government, it is plain, that education is universally and indispensably necessary, to enable them to exercise their rights and perform their duties. This will be put beyond question, by considering a few particulars.

I. The first duty, in a popular government, is that which is attached to the elective franchise; though I fear it is too little regarded in this light. It is not merely the right, but it is the duty, of the citizen, by the exercise of the right of suffrage, to take a part, at periods recurring after short intervals, in organizing the government. This duty cannot be discharged with rectitude, unless it be discharged with intelligence; and it becomes the duty of the citizen to make up his own mind, on all the great questions which arise in administering the government. How numerous and important these questions are, I need not say. Since you and I, Mr. President, have been of years to observe the march of affairs, the people of the United States have been called to make up a practical judgement on the following, among other great questions:—the *protective policy*, that is, on the legislation necessary to introduce and establish an infant branch of manufactures; a question, however easily disposed of by theorists, on both sides, of infinite practical difficulty; *on internal improvement*, that is, the construction of public works of communication, between the various parts of the Country, at the expense of the general government; on the *circulating medium*, and how far the currency, which is the representative of value, must have intrin-

sic value, itself; on the ***different families of the human race***, existing in the Country, and the rights and duties which result from their relation to each other; on the ***relations*** of the Country with ***foreign*** powers, in reference to colonial trade, disputed boundaries, and indemnification for wrongs and spoliations; on the disposal of the ***public domain***, and its bearings on the progress of population and of republican government, in the mighty West; on the nature of our political system, as consisting in the harmonious ***adjustment*** of the ***Federal*** and ***State*** governments. I have named only a part of the questions, which, within the last twenty years, have been, some of them constantly, before the community,—the turning points of Municipal, State, and National, elections. The good citizen, who is not willing to be the slave of a party because he is a member of it, must make up his mind for himself, on all those great questions, or he cannot exercise the right of suffrage with intelligence and independence. As the majority of the people are well or ill informed on these subjects, the public policy of the Country will be guided by wisdom and truth, or the reverse.

I do not mean, that it is necessary that every citizen should receive an education which would enable him to argue all these questions, at length, in a deliberative or popular assembly; but, while it is his right and his duty to give effect to his judgement, at the polls, and while the constitution necessarily gives as much weight to the vote of the uninformed and ignorant as to that of the well-instructed and intelligent citizen, it is plain, that the avenues to information should be as wide and numerous as possible; and that the utmost practicable extension should be given to a system of education, which will confer on every citizen the capacity of deriving knowledge, with readiness and accuracy, from books and documents. The whole energy of the State should be directed to multiply the numbers of those capable of forming an independent and rational judgement of their own, and to diminish, as much as possible, the

numbers of the opposite class, who, being blinded by ignorance, are at the mercy of any one, who has an interest and the skill to delude them.

II. But the exercise of the elective franchise is only the beginning of the duties of the citizen. The constitution makes it the right, the laws make it the duty, of all citizens, within certain ages, to bear arms. It may sound strangely, to connect this duty with the subject of education. I hope no practical demonstration of the connexion of the topics will ever arise among us. But this right and this duty, lightly esteemed in quiet times, may become of fearful import. Arms are placed in the hands of the citizen, for the most important purposes; not for parade and holyday display, but to defend his country against violence from abroad; to maintain the supremacy of the laws; to preserve the peace of the community. Heaven grant, that the day may be far distant, when our citizens shall be called to wield them, for either purpose. But, if the experience of the past warrant an anticipation of the future, the time may come, when this duty, also, is to be performed. It will not, then, be a matter of indifference, whether the honor and peace of the community are committed to an ignorant and benighted multitude, like those which swell the ranks of the mercenary standing armies of Europe, or to an educated and intelligent population, whose powers of reflection have been strengthened by exercise, and who are able to discriminate between constitutional liberty and arbitrary power, on the one hand, and anarchy, on the other.

III. There are other civil duties to be performed, for which education furnishes a still more direct and appropriate preparation. The law of the land calls the citizen to take a part in the administration of justice. Twelve men are placed in the jury-box, to decide on the numberless questions which arise in the community, —questions of character, and questions of life. The jury passes on your fortune, your reputation; pronounces whether you live or die. Go into the courts; are

they light matters, which those twelve men are to decide? Look in the anxious faces of those, whose estates, whose good name, whose all, is at stake, hanging on the intelligence of those twelve men, or any one of them. What assurance is there, but that which comes from our schools, that these men will understand and do their duty? Those little boys, now sporting in the streets, or conning their tasks in our town schools, in a few short years will be summoned, in their turns, to discharge this important trust. Can we deem it a matter of indifference, whether or not their minds have been early accustomed to follow a train of thoughts or a statement of facts? Did not the Secretary give us, this morning, from his own experience, the instance of a witness, who, in a case of slander, where every thing turned on his testimony, first swore, that what he saw, he saw through one window, and then, through another, and then, through a door? Wo to the community, where the degree of stolidity and ignorance, necessary to constitute such a witness, abounds; and where it must appear, not only on the stand, but in the jury-box. It appears to me a most imperative duty, on the part of a State, which calls its citizens to discharge this momentous office, to do all in its power to qualify them for it, by a general system of education. Is it said, there is learned counsel to argue and explain the cause to a jury, however ignorant? But there is counsel on both sides; the jury must decide, after hearing them both. But the court will instruct the jury. No doubt, as far as the law is concerned; but the court's instructions are addressed to minds, supposed to be capable of following out an argument, estimating evidence, and making up an independent opinion. I do not say, that there are not some minds, to whom the best opportunities of education would not impart the requisite qualifications of an intelligent juror. But I may appeal to every professional character and magistrate in this convention, that, in an important case, if he were to be called on to select a jury, on which he could place full

reliance, he would select men of good common sense, who had received a good common education.

IV. But I have not yet named all the civil duties, for which education is needed as the preparatory discipline. The various official trusts in society are to be filled, from a commission of the peace to the place of chief-justice; from a constable up to the President of the United States. The sphere of duty, of some of these functionaries, is narrow; of others, large and inexpressibly responsible; of none, insignificant. Taken together, they make up the administration of free government,—the greatest merely temporal interest of civilized man. There are three courses, between which we must choose. We must have officers unqualified for their duties; or we must educate a privileged class, to monopolize the honors and emoluments of place; or, we must establish such a system of general education, as will furnish a supply of well-informed, intelligent, and respectable citizens, in every part of the Country and in every walk of life, capable of discharging the trusts which the people may devolve upon them. The topic is of great compass, but I cannot dwell upon it. It is superfluous to say, which of the three courses is most congenial with the spirit of republicanism.

V. I have thus far spoken of those reasons, for promoting Common-School Education, which spring from the nature of our government. There are others, derived from the condition of our Country. Individual enterprise is every where stimulated; the paths of adventure are opened; the boundless West prevents the older settlements from being overstocked, and gives scope for an unexampled developement of energy. Education is wanted, to enlighten and direct those active, moving powers. Without it, much wild vigor will be exerted in vain. Energy, alone, is not enough; it must be turned to feasible objects, and work by sound principles.

Again, this spirit of enterprise runs naturally towards the acquisition of wealth. In this, I find no matter of

reproach; only let it not be a merely Carthaginian prosperity. Let a taste for reading and reflection be cultivated, as well as property acquired. Let us give our children the keys of knowledge, as well as an establishment in business. Let them, in youth, form habits and tastes, which will remain with them, in afterlife, in old age, and furnish rational entertainment, at all times. When we collect the little circle, at the family board and at the fireside, in our long Winter evenings, let us be able to talk of subjects of interest and importance,—the productions and institutions of our own and foreign countries; the history of our venerated fathers; the wonders of the material universe; the experience of our race; great moral interests and duties;—subjects, surely as important as dollars and cents. Let us, from early years, teach our children to rise above the dust beneath their feet, to the consideration of the great spiritual concerns of immortal natures. A mere bookworm is a worthless character; but a mere moneygetter is no better.

It is a great mistake, to suppose that it is necessary to be a professional man, in order to have leisure to indulge a taste for reading. Far otherwise. I believe the mechanic, the engineer, the husbandman, the trader, have quite as much leisure, as the average of men in the learned professions. I know some men, busily engaged in these different callings of active life, whose minds are well stored with various, useful knowledge, acquired from books. There would be more such men, if education in our Common Schools were, as it well might be, of a higher order; and if Common-School Libraries, well furnished, were introduced into every district, as I trust, in due time, they will be. It is surprising, sir, how much may be effected, even under the most unfavorable circumstances, for the improvement of the mind, by a person resolutely bent on the acquisition of knowledge. A letter has been put into my hands, bearing date the sixth of September, so interesting, in itself, and so strongly illustrative of this point,

that I will read a portion of it; though it was written, I am sure, without the least view to publicity.

"I was the youngest" (says the writer*) "of many brethren, and my parents were poor. My means of education were limited to the advantages of a district school; and those, again, were circumscribed by my father's death, which deprived me, at the age of fifteen, of those scanty opportunities, which I had previously enjoyed. A few months after his decease, I apprenticed myself to a blacksmith, in my native village. Thither I carried an indomitable taste for reading, which I had previously acquired, through the medium of the social library; all the historical works in which, I had, at that time, perused. At the expiration of a little more than half my apprenticeship, I suddenly conceived the idea of studying Latin. Through the assistance of an elder brother, who had himself obtained a collegiate education, by his own exertions, I completed my Virgil, during the evenings of one Winter. After some time devoted to Cicero, and a few other Latin authors, I commenced the Greek. At this time, it was necessary that I should devote every hour of daylight, and a part of the evening, to the duties of my apprenticeship. Still, I carried my Greek grammar in my hat, and often found a moment, when I was heating some large iron, when I could place my book open, before me, against the chimney of my forge, and go through with *tupto, tupteis, tuptei,*† unperceived by my fellow apprentices, and, to my confusion of face, with a detrimental effect to the charge in my fire. At evening, I sat down, unassisted and alone, to the Iliad of Homer, twenty books of which measured my progress in that language, during the evenings of another Winter. I next turned to the modern languages, and was much gratified to learn, that my knowledge of the Latin furnished me with a key to the literature of most of the languages of Eu-

* Mr. Elihu Burritt.

† The example of the regular verb, in some Greek grammars.

rope. This circumstance gave a new impulse to the desire of acquainting myself with the philosophy, derivation, and affinity, of the different European tongues. I could not be reconciled to limit myself, in these investigations, to a few hours, after the arduous labors of the day. I therefore laid down my hammer, and went to New Haven, where I recited, to native teachers, in French, Spanish, German, and Italian. I returned, at the expiration of two years, to the forge, bringing with me such books, in those languages, as I could procure. When I had read these books through, I commenced the Hebrew, with an awakened desire of examining another field; and, by assiduous application, I was enabled, in a few weeks, to read this language with such facility, that I allotted it to myself, as a task, to read two chapters in the Hebrew Bible, before breakfast, each morning; this, and an hour at noon, being all the time that I could devote to myself, during the day.

"After becoming somewhat familiar with this language, I looked around me, for the means of initiating myself into the fields of Oriental literature, and, to my deep regret and concern, I found my progress, in this direction, hedged up, by the want of requisite books. I immediately began to devise means of obviating this obstacle; and, after many plans, I concluded to seek a place, as a sailor, on board some ship bound to Europe, thinking in this way to have opportunities of collecting, at different ports, such works in the modern and Oriental languages, as I found necessary to this object. I left the forge and my native place, to carry this plan into execution. I travelled on foot to Boston, a distance of more than a hundred miles, to find some vessel bound to Europe. In this, I was disappointed; and, while revolving in my mind what step next to take, I accidentally heard of the American Antiquarian Society, in Worcester. I immediately bent my steps towards this place. I visited the Hall of the American Antiquarian Society, and found there, to my infinite gratification, such a collection of ancient, modern, and Oriental,

languages, as I never before conceived to be collected in one place; and, sir, you may imagine with what sentiments of gratitude I was affected, when, upon evincing a desire to examine some of these rich and rare works, I was kindly invited to an unlimited participation in all the benefits of this noble Institution. Availing myself of the kindness of the directors, I spend about three hours, daily, at the Hall, which, with an hour at noon, and about three in the evening, make up the portion of the day which I appropriate to my studies, the rest being occupied in arduous manual labor. Through the facilities afforded by this Institution, I have been able to add so much to my previous acquaintance with the ancient, modern, and Oriental, languages, as to be able to read upwards of FIFTY of them, with more or less facility."

I trust, Mr. President, I shall be pardoned, by the author of this letter and the gentleman to whom it is addressed,* for the liberty which I have taken, unexpected, I am sure, by both of them, in thus making it public. It discloses a resolute purpose of improvement, under obstacles and difficulties of no ordinary kind, which excites my admiration, I may say, my veneration. It is enough to make one, who has had good opportunities for education, hang his head, in shame.

No leisure, Mr. President, for reading? Is there a man in the community, of an intelligent mind, and with any, the least tincture of improvement, derived from education, who, when coming, at nightfall, from his labor, (I care not how hard or humble,) if told that, beneath his roof, he would find Shakspeare, or Milton, or Scott, or Irving, or Channing, seated in actual presence by his fireside, and waiting to converse with him, would talk of wanting leisure, or of fatigue? Would he not bound forward to meet them, as the panting hart bounds to the waterbrooks? Would not the stars grow pale in the sky, before he would think of weari-

* W. Lincoln, Esq., of Worcester.

ness? Well, sir, there is not an individual in the community, who cannot, for a few dollars, surround his fireside with these and kindred spirits, the lights and guides of humanity: not in bodily, but in intellectual, presence. They will speak to his understanding, not through the ear, but through the eye. They will discourse to him, not in their everyday language, in which the most gifted do not always greatly excel their fellows; but in the choicest and purest strains, to which, by study and meditation, and, I had almost said, by inspiration, they have elevated their thoughts; and this they will do, not for a hasty moment, in a brief visit, but again and again, for days and for years; yea, until, by long-continued intercourse with the noblest intellects of our race, his own becomes exalted and purified.

VI. There is one other topic, to which I ought to allude, more important than all others; but I have only time for a single remark. Man is a religious being, and, as far as human means and influences go, educacation is the natural basis of a rational belief. It is the peculiarity of Christianity, as distinguished from other religions, that it addresses the understanding, as well as the heart. It commands us to search the Scriptures; to be ready to give a reason for the faith that is in us; and invites us, on the Sabbath, to listen to a *discourse*, that is, a connected, well-reasoned address, on its evidence, duties, hopes, and sanctions. Can this be done to a good purpose, (humanly speaking,) without education? The heathen might offer incense on the altar of Jupiter, with a vacant mind; he might scrutinize the palpitating viscera of animals, with a grovelling spirit; he might consult the oracle at Delphi, and shape his conduct by the response, with a benighted understanding. It is saying but little, to say, that there was nothing in his religion, that invited the exercise of his mental powers. We are blessed with a faith, which calls into action the whole intellectual man; which prescribes a reasonable service; challenges the investigation of its evidences; and which, in

the doctrine of immortality, invests the mind of man with a portion of the dignity of Divine Intelligence. In whatever other respects the advantages of education might be dispensed with, when we consider man as a religious and immortal being, it is a shocking spectacle, to see him growing up, dark and benighted, ignorant of himself, of his duties, and of his destination.

But this subject is too vast for the occasion. I forbear to enlarge. I trust, sir, the resolution will be adopted, and that the people of Massachusetts, of this generation, will show, by their conduct, as a powerful Commonwealth, not less than as a community of individuals, that they perceive the intimate connexion between education and the existence and prosperity of free institutions of government.

GLOSSARY

OF WORDS AND PHRASES NOT EASILY TO BE UNDERSTOOD BY THE YOUNG READER.

[Many names of persons and places, terms of art, &c., which occur in this Volume, will be found explained in one of the places where they occur. For these, see INDEX.]

Abana, (or Amana,) a river of Palestine, mentioned by Naaman, (2 Kings v. 12,) as better than all the waters of Israel. It rises in Anti Lebanon, and unites with the Pharpar about four miles northwest of Damascus. It is then again divided into several streams, one of which passes through Damascus, and the others around it, after which they are lost in a bog, or marsh, called Bahr-el-Marje, or Lake of the Meadow. The Abana was called Chrysorrhoas by the Greeks, and is now called Barrady.

Absolute monarchy, a form of government, in which the power of the monarch is unlimited.

Absolutism, the system, or principle, of vesting unlimited power in the sovereign.

Academy, a place of education ; a school of philosophy ; an assembly or society of learned men, uniting for the purpose of conferring together upon discoveries already made in the sciences, or to try experiments for their further improvement. The name is derived from the groves of Academus, in the vicinity of Athens, about one eighth of a mile from the city, where the Philosopher, Plato, resided, and gave his instructions ; from which time they became, in a great measure, sacred to philosophy. The name Academy is often used for the school of Plato, as in this Volume, pages 23, 41. In other places, as pages 25, 155, it is confined to the various public societies established in different countries, for the improvement of the arts and sciences. The French Academy, at Paris, and Royal Academy, at London, are those particularly mentioned in this Volume. There is, in this Country, an 'American Academy of Arts and Sciences.' See *French* and *Royal*.

Acropolis, (Greek,) the highest part or citadel of a city, particularly that of Athens.

Accession, the act of coming into power, or of entering upon an office.

Adelphic, fraternal.

Adriatic Sea, also called Gulf of Venice, an arm of the Mediterranean Sea, on the northeast of Italy.

Aladdin, the subject of one of the tales in the 'Arabian Nights' Entertainments.' The possession of a magical lamp is represented as giving him command of the services of the 'Genius of the Lamp,'

an imaginary being of superhuman powers, by whom all his orders were obeyed, with the celerity of enchantment.

Albertus Magnus, or Albert the Great, a distinguished theologian and natural philosopher, who resided at Paris, Rome, and Cologne, and died at the latter place, in the year 1280, aged about eighty years. He was for some time Bishop of Ratisbon, but his love of solitude induced him to resign that dignity, and retire to a monastery. His works make twenty-one folio volumes.

Alcæus, a celebrated lyric poet of Greece, who flourished about six hundred years before Christ. A few fragments, only, of his works remain.

Alchymists, the professors of *Alchymy*, an art which originated in Arabia, in the fourth century, and was afterwards much cultivated in Europe, which had for its object the transmutation, or change, of the baser metals into gold, and the discovery of the *philosopher's stone*, a substance supposed to possess the power of curing all diseases, and renewing life. The alchymists, though engaged in the pursuit of objects now known to be visionary, have, by their experiments, rendered much service to modern chemistry.

Alcuin, called also *Albinus*, (Flaccus,) an Englishman, and the most eminent scholar of his age, born A. D. 732.

Alexander the Great,—'Macedonia's madman,'—a celebrated King of Macedonia, who was born three hundred and fifty-six years before the birth of our Saviour, and died in the thirty-second year of his age. He was a great warrior, and conquered his enemies in every battle which he fought; and at last is said to have wept, because "there were no more worlds to conquer." The extent of his conquests, and his uniform success in war, have rendered his name synonymous with *conqueror*. He was proud, ordering himself to be worshipped as a god; and visited the temple of Jupiter Ammon in the Desert of Siwah, and bribed the priests of the temple to declare him to be the son of Jupiter. He was brave, often to rashness; humane and liberal; easy and familiar with his friends; and a great patron of learning. But he was a drunkard; and in one of his fits of madness, produced by intoxication and debauchery, he set fire to the city of Persepolis.

Alexandria, the capital of Lower Egypt, founded by Alexander the Great. This city, under the reign of the Ptolemies, successors of Alexander, was distinguished as the seat of learning. At the Museum, founded by Ptolemy Philadelphus, who died B. C. 247, numerous scholars lived, were supported, and studied. The grammarians and poets of Alexandria are termed, collectively, the *Alexandrian school*, and the age of literature under the Ptolemies is termed the *Alexandrian age*.

Algiers, one of the States of Barbary, on the northern coast of Africa, with a capital city of the same name, which was surrendered to the French, July 5, 1830, previous to which time, the Algerines were a piratical nation, and received tribute from several states of Christendom.

Alkali, (plural *alkalies*,) a substance that has the property of combining with, and neutralizing the properties of, acids, producing salts by the combination. Alkalies change the vegetable blues and

purples to green, red to purple, and yellow to brown. *Caustic alkali*, an alkali deprived of its carbonic acid, being thereby rendered more caustic and violent in its operation. This term is usually applied to pure potash. *Fixed alkali*, an alkali that emits no characteristic smell, and cannot be volatilized or evaporated without great difficulty. Potash and soda are called the fixed alkalies. Soda is also called a *Fossil*, or *Mineral Alkali*, and potash, the *Vegetable Alkali*. *Volatile alkali*, an elastic, transparent, colorless, and consequently invisible, gas, known by the name of ammonia, or spirits of hartshorn.

Allston, (Washington,) one of the most distinguished of living painters; an American.

Alma mater, dear, or benignant, mother; an epithet applied to a college, university, or other seminary of learning, by those who have there received their education.

Alpine, of, or relating to, *the Alps*, a lofty ridge of mountains in Europe, the highest summits of which are in Savoy and Switzerland.

Altai Mountains, a vast chain of mountains, in Asia, forming, for a great distance, the southern boundary of Siberia.

Amalgamation, the combination of mercury with other metals. The compound is called an *amalgam*.

Anacaona, a female cacique (chief) of Hispaniola, or St. Domingo; put to death by the Spaniards, under Ovando, in 1505.

Anatolia, see *Asia Minor*.

Andes, an immense chain of mountains, extending through South America, from north to south. In Chili, these mountains, which, to the north and south, are divided into several ridges, form but one ridge, about one hundred and twenty miles in breadth: and the *Chilian Andes* present many summits of great height.

Anson, (George,) *Lord*, a distinguished English naval commander, between 1739 and 1761. He not only obtained numerous victories over the ships of the French and Spaniards, then at war with England, but added much to geographical knowledge, by his explorations and discoveries.

Anti-Christian, opposed to Christianity.

Antartic Sea, or Ocean, (also called Southern Frozen Ocean,) the ocean lying round the south pole, and south of the southern extremities of America, Africa, and New Holland.

Apollo, one of the deities of the ancient Grecian mythology, presiding over poetry, music, medicine, and prophecy. One of the most perfect specimens of ancient sculpture, which have come down to modern times, is the statue of this god, named the *Apollo Belvidere*, from the pavilion called *Belvidere*, in the Vatican, or Pope's palace at Rome.

Apollonius the Rhodian, an ancient poet, born about two hundred and thirty years before Christ. He wrote a poem, of some merit, upon the expedition of the Argonauts, who sailed in the ship Argo, under the command of the hero Jason, in search of the fabulous golden fleece.

Appetence, desire.

April the nineteenth, see *Lexington*.

A priori, literally, from the preceding. Reasoning *a priori*, is reasoning on grounds *preceding* actual knowledge.

Arabs, or *Arabians*, inhabitants of Arabia, an extensive region in the southwestern part of Asia.

Arcadia, a mountainous country, in the centre of the peninsula constituting the southern part of Greece, now called the Morea, and anciently the Peloponnesus. It has been much celebrated by the poets, as the abode of virtue, courage, and pastoral simplicity of manners.

Archangel, a city in the northern part of Russia, on the River Dwina, about six miles from the White Sea; formerly the only maritime city of importance in Russia, but, since the foundation of St. Petersburg, it has much declined.

Archimedes, the most celebrated among the ancient geometricians, born at Syracuse, in Sicily, about two hundred and eighty-seven years before the birth of our Saviour. He was the inventor of several of the most important mechanical powers, such as the compound pulley, the endless screw, &c.; and is reported to have said he would move the world, if he could find a fulcrum, or point, without it, on which he could stand and place his lever. He is also said to have constructed lenses, or burning glasses, of such great power, that he set on fire with them the ships of the Roman fleet, which was besieging Syracuse. Hiero, King of Syracuse, suspecting that an artist had added some common metal to a crown, which he had directed to be made of pure gold, requested Archimedes to ascertain the fact. He discovered the method of solving the question, while he was in the bath.

Archipelago, a sea interspersed with many islands. The name was originally applied to the Ægean Sea, situated between Europe and Asia, and which is called the Grecian Archipelago, but has been also extended to other seas and even oceans. By the *Indian Archipelago* is to be understood the collection of islands south of the eastern part of the continent of Asia, and forming a part of what is comprehended under the term *East Indies*.

Ariosto, (Ludovico,) an eminent Italian poet, who was born A. D. 1474, and died A. D. 1533. His great work is the Orlando Furioso, an epic poem.

Aristotle, a distinguished Grecian philosopher, born B. C. 384, at Stagira, in Macedonia, whence he is sometimes called the Stagyrite. He was the preceptor of Alexander the Great.

Arkwright, (Sir Richard,) inventor of the spinning-jenny, died in 1792. For a further account of him, see the second volume of 'Pursuit of Knowledge under Difficulties,' forming Vol. xv. of 'The School Library,' Larger Series.

Armadillo, a small quadruped, found in tropical America, whose whole body is covered with a hard shell, consisting of scales or plates, arranged like a coat of mail. When attacked, the animal rolls himself into a solid uniform ball.

Armillary, resembling a bracelet. The armillary sphere consists of a number of rings of brass, or bracelets, representing the various circles of the celestial globe.

Asia Minor, (now called Anatolia, or Natolia,) a province of Asiatic

Turkey, is that part of Asia comprehended between the Grecian Archipelago and the Mediterranean and Black Seas, and bordering, easterly, on Armenia and Syria.

Assyrians, people of Assyria, one of the most important kingdoms of ancient Asia.

Astrolabe, an instrument for measuring angles, formerly in use for determining the position of the heavenly bodies, but not now used.

Atahualpa, the last of the Incas, or native princes of Quito, a province of South America. He was burnt by the Spaniards, in 1533.

Athens, the capital of *Attica*, one of the countries of ancient Greece. It was remarkable as the seat of art, literature, and philosophy. It was rich in public edifices of the greatest magnificence. It was the resort and abode of poets, whence the phrase, '*the Attic Muse*,' embraces the noblest productions of Grecian poetry. The schools of the philosophers, of Plato, Aristotle, Zeno, and Epicurus, were held within, or near, the city. Athens is still interesting, on account of the ruins of its ancient buildings, of which enough remains to attest its former splendor.

Athenæum, a name given to public libraries, frequented for the purposes of reading. It was the name of a building in ancient Athens, dedicated to Minerva, and destined for assemblies of poets and orators.

Athos, a lofty mountain in Greece.

Atlantis, a name given by the ancients to an island supposed to exist in the Atlantic Ocean, but respecting which they had only vague and indefinite accounts. As they placed it in a spot where afterwards no island was found, it was supposed to have sunk,—to be 'lost.' Its existence is now generally regarded as imaginary.

Atlas, a chain of mountains in Northern Africa.

Attica, *Attic muse*, see *Athens*.

Augustan age, see the next article.

Augustus, (Octavius Cæsar,) a Roman Emperor, who was born about B. C. 62, and died A. D. 14. His age was remarkable for the number of distinguished writers and men of genius whom it produced ; whence the phrase, *Augustan age*, is applied to any flourishing era in literature.

Auspices, signs of future events.

Australia, that division of the globe, which comprehends the numerous islands lying in the Southern and the Pacific Oceans.

Babylonian, of Babylon, the capital of the ancient Asiatic empire of Babylonia.

Bacon, (Francis, Baron Verulam,) lord high chancellor of England, was born A. D. 1561, and died A. D. 1626. He is to be regarded as one of the most remarkable men of any age. He was a profound scholar in the whole circle of the sciences, and is the first who reformed philosophy, by founding it on the observation of Nature.

Bacon, Roger, an English monk of the thirteenth century, distinguished for his discoveries in chemistry and natural philosophy. For an account of him, see the second volume of 'Pursuit of Knowledge under Difficulties,' being Vol. xv. of 'THE SCHOOL LIBRARY,' Larger Series.

Balize, a point at the mouth of the River Mississippi, about one hundred miles below New Orleans.
Banana, a luscious and agreeable fruit, about five inches long, and shaped like a cucumber, growing in the West Indies and other tropical climates.
Banditti, (Italian,) robbers associated in organized bands.
Bavius and *Mævius*, two miserable versifiers of ancient Rome, satirized by Virgil, and whose names have become proverbial for dulness and stupidity.
Bay State, Massachusetts, which was originally called the province of Massachusetts Bay.
Beda, or *Bede*, surnamed the Venerable, an eminent English ecclesiastic and writer of the eighth century, who was born about the year 672, and died A. D. 735. He became celebrated for his learning, and his fame spread to foreign countries. He wrote an Ecclesiastical History, and translated the Gospel of St. John into the Saxon language.
Bell, (Andrew,) an English gentleman, by whom the system of mutual, or monitorial, instruction was first introduced into practice in the English schools.
Berkeley, (George,) Bishop of Cloyne, in Ireland, and author of many remarkable works on natural and intellectual philosophy, and other subjects, was born March 12, 1684, and died January 14, 1753. The excellence of his moral character is conspicuous in his writings. He made very active efforts for the establishment of a college in the Island of Bermuda, for "converting the savage Americans to Christianity," and expended a large part of his fortune for this object ; but, after seven years of exertion, the project failed, for want of the assistance promised by the English Parliament. In pursuance of this plan, he resigned his preferments, and sailed with his family for Rhode Island, and resided at Newport for two years. He was a distinguished benefactor to Yale College, in New Haven, Connecticut.
Black Forest, an extensive forest in the mountainous region of Germany, a part of the ancient Hercynian Forest, which, in the time of Cæsar, was nine days' journey in breadth and more than sixty in length, covering nearly the whole of Germany.
Blackstone, (Sir William,) an eminent English Judge, and expounder of the laws and constitution of England. His great work, the 'Commentaries on the Laws of England,' first appeared A. D. 1765, and is still a standard work.
Bobadilla, (Don Francisco de,) was sent to St. Domingo, in 1500, with power to supersede Columbus, whom he sent home in chains. He reversed Columbus's mode of treating the Indians, and reduced them to a state of complete servitude. See 'Life of Columbus,' in Vol. i. of 'THE SCHOOL LIBRARY,' Larger Series.
Boccaccio, (Giovanni,) an Italian poet and novelist of great celebrity, who flourished in the fourteenth century. He was born, A. D. 1313, and died, A. D. 1375. He is best known by his 'Decameron,' a collection of tales of the most various character, written in the most polished style.
Bologna, a wealthy and populous city in the north of Italy.

Bonaparte, see *Napoleon*.
Bowditch, (Nathaniel,) the most eminent mathematician and astronomer that America has produced, was born in Salem, March 26, 1773, and died in Boston, March 16, 1838. He was a self-educated man. With limited advantages of early education, and engaged, through life, in laborious employments for the support of his family, he was enabled, by great natural endowments, and wise economy of time, to make extensive acquisitions in learning and science. His 'Practical Navigator' is the standard work upon navigation and seamanship. His greatest work is the translation, in four volumes, quarto, of the 'Mecanique Celeste' (Mechanism of the Heavens) of La Place, a distinguished French mathematician and astronomer.
Bowdoin College is located at Brunswick, in the State of Maine.
Boyle, (Bernardo,) a Benedictine monk, a native of Catalonia, who was sent out to America, by Queen Isabella, with Columbus, on his second voyage, to convert the heathen natives of the New World, of which the Pope appointed him his Apostolical Vicar.
British Navigation Act, an act passed by the British Parliament, in 1651, requiring that no importations should be made into England, except in English ships, with English commanders. This act, passed for the exclusive benefit of English trade, was obnoxious to the New-England colonies, and was evaded by them.
Brougham, (Henry,) Lord, an eminent living jurist, statesman, and orator, of England.
Brown University is located at Providence, Rhode Island.
Burgundy, formerly a province in the easterly part of France.
Burke, (Edmund,) an eminent writer, orator, and statesman, of Great Britain, was born A. D. 1730, and died A. D. 1797.
Bushmen, a race of Hottentots, a wild and miserable people, inhabiting the western part of South Africa.
Byzantium, the ancient name of Constantinople.
Cadmus, the name of several individuals, celebrated in ancient mythology and history. Tradition states that the most famous of the name, who was the grandson of Neptune, founded the Grecian city of Thebes, and introduced into Greece the Phœnician alphabet, about the year B. C. 600.
Cæsar, (Caius Julius,) a very distinguished Roman general, statesman, and historian, born B. C. 100. He is said to have been victor on five hundred battlefields, and attained the Dictatorship of the Roman Empire, with the title of *Imperator*, or Emperor. His extensive conquests of Spain, Gaul, Egypt, and Numidia, raised the power of Rome to an unprecedented height. In general, he used his most extraordinary talents for the good of his country. He subdued his enemies more by his clemency than by his sword. He was assassinated, in the Capitol, at Rome, by Brutus, Cassius, and other conspirators, on the 15th of March, B. C. 44, in the fifty-sixth year of his age. He wrote Commentaries on the wars in which he was engaged, on the spot where he fought his battles; and the composition has been admired for the correctness and elegance of his style. Cæsar was also the family name of the first five Roman emperors. With Nero the family became extinct, and

the term *Cæsar* became afterwards merely a title of imperial dignity.

Calderon, (Don Pedro, de la Barca,) one of the greatest dramatic authors of the Spanish nation, was born at Madrid, in 1601, and died at the advanced age of eighty-seven years.

Caliph, more properly, *Khalif*, 'a successor,' 'vicar,' or 'substitute,' the imperial title given to the successors of Mohammed in the supreme authority of the Mussulman empire.

Callimachus, a Greek poet and grammarian.

Calvin, (John,) a very distinguished reformer and theologian of the sixteenth century, was born at Noyon, in Picardy, July 10, 1509. The numerous followers of his theological tenets are generally styled Calvinists. He lived to the age of fifty-five years, and died May 27, 1564.

Cambyses, son of Cyrus the Great, became King of the Medes and Persians, B. C. 530. He was a cruel, passionate, and sensual Monarch, and reigned but eight years.

Camoens, (Louis de,) the most celebrated poet of the Portuguese, was born in Lisbon, about A. D. 1527, and died A. D. 1579. He has been styled the Virgil of Portugal. His great epic poem, called the Lusiad, was written during his banishment at Macao, in China.

Canonized, originally, declared to be a saint; hence, hallowed, venerable, sacred.

Canonry, the office, and sometimes the residence, of a *canon*. A *canon* is one who possesses a revenue for the performance of Divine service in a cathedral church.

Canova, (Antonio,) one of the most famous sculptors of modern Italy, was born A. D. 1757, and died in 1822. His works are marked by grace in design, and delicacy of finish.

Canton, a district.

Carr, (Robert,) a favorite of James the First, of England, who created him Earl of Somerset, in 1612.

Carthage, an ancient city of Africa, founded by a colony from Tyre, and remarkable for its population, wealth, and power. It was, for many years, a rival of Rome herself; but finally fell into the power of the Romans, and was destroyed, B. C. 146.

Caste, a tribe, race, or class, of people, in the East, whose occupations, customs, and privileges, are hereditary. There are four original castes among the Hindoos; and the members of one will not even eat with those of another.

Castilian, belonging to Castile, a kingdom or principal province of Spain; and hence used to signify *Spanish*. The phrase "Castilian majesty" is sometimes used to express the richness and dignity of the Spanish language.

Catalepsy, a spasmodic disease, or fit, during which the mind and senses are entirely inactive.

Caucasus, a very extensive range of lofty mountains in Western Asia, between the Black and Caspian Seas.

Ceramicus, one of the most considerable and important parts of ancient Athens, divided into the inner and outer; the former being within, and the latter without, the walls. The inner Ceramicus was a public walk, adorned with temples, porticoes, and other ed-

ifices ; the outer Ceramicus was a public burying ground, which contained the remains of the most illustrious warriors and statesmen of Athens. The Academy was at the extremity of this burial ground ; and the road to it was lined, on either side, with the sepulchres of Athenians who had fallen in battle, and been buried with funeral honors, and at the public expense.

Cervantes, (Miguel de,) the author of the Adventures of Don Quixote, a very celebrated romance. He was born at Madrid, in Spain, about the year 1547. He served in the wars against the Turks and African corsairs, and lost his left hand at the great seafight of Lepanto. He was subsequently taken by the corsairs, and remained seven years in slavery. He died at Madrid, in 1616, at the age of sixty-eight.

Ceylon, a large island in the Indian Ocean.

Chained to the oar. The slaves employed to row the huge *galleys*, or large boats, formerly in use on the Mediterranean, especially by the Venetians, were usually chained to the oars, which were of such size, that six or seven slaves were required for each. Hence the expression is applied to any subjection to a galling tyranny.

Chaldæans, inhabitants of *Chaldæa*, the southerly part of ancient Babylonia.

Champollion, (John Francis,) a French writer, celebrated for his works on Egyptian antiquities, and for his investigations and discoveries in relation to Egyptian hieroglyphics. He died at Paris, in 1832, at the age of forty-two.

Chantrey, (Francis,) a celebrated English sculptor. The statue of Washington, in the State House, Boston, was executed by him.

Charlemagne, or Charles the Great, was a celebrated conqueror, in the middle ages. He was born in Bavaria, A. D. 742. At the decease of his father, Pepin, King of the Franks, or French, he was crowned King, A. D. 768. In the year 800, he was crowned Emperor of the West, at Rome. His victories greatly extended the domains of France. On his becoming Emperor, he took the names of Cæsar and Augustus, the two first Emperors of Rome. He was a wise, politic, and able prince, and a great patron of the arts and sciences. He lived to the age of seventy-one years, and died January 28, 814, at Aix-la-Chapelle, in Germany, which place he had selected for his residence.

Charles I., King of Great Britain, was born in Scotland, A. D. 1600. He was a prince of great private virtue and talent, but rash and presumptuous in his political course. By the levying of illegal taxes, and the oppressive decisions of the Court of Starchamber, he alienated from him the Parliament and the middle classes, with many persons of rank and fortune. The breach widened to open war, and under Fairfax and Cromwell, the Parliament finally became victorious. Charles was deposed, tried, and beheaded on the 30th of January, 1649. He suffered with great composure and courage.

Charles V., Emperor of Germany and King of Spain, (in the latter capacity he was called Charles the First,) was born February 24, 1500. His military and political career was very distinguished, and he was a sincere patron of men of genius and learning. At the height of his power, he abdicated his thrones in favor of his

son, and retired to a monastery, where he passed the remainder of his days, dying September 21, 1558, in the fifty-ninth year of his age.

Charles X., King of France, and brother of Louis the Sixteenth and of Louis the Eighteenth, whom he succeeded, was born in 1757. By the advice of his ministry, at the head of which was Prince Polignac, he issued severe edicts against the liberty of the press, and was finally driven from the throne, by the revolution of July, 1830, and succeeded by the present King, Louis Philip. He died in 1836.

Chatham, (William Pitt,) Earl of, an illustrious statesman of England, possessed of great eloquence, sagacity, energy, and integrity. He was at the head of the administration, during the latter part of the reign of George the Second, and the first year of that of George the Third. He opposed the American Revolutionary War, in the most brilliant and eloquent speeches of that or of any time. He was born November 15, 1708, and died May 11, 1778.

Checkered, varied or diversified with brighter or darker parts, like the changing of squares on a chess-board.

Chilian Andes, see *Andes*.

China, *Chinese empire*, a country of great extent in Eastern Asia, comprising upwards of five millions of square miles, and containing more than one hundred and fifty millions of inhabitants. The government is an absolute monarchy. Tea is the principal article of export. The *China Sea* washes the southern coast of China.

Chloride of lime, a combination of lime with a gas (or air) called *chlorine*. It possesses remarkable powers in purifying the air, in places exposed to infection.

Cholera, a very fatal disease, which prevailed in Europe and America, during the years 1832 and 1833. It was called *Asiatic*, being introduced into Europe from Asia. In the city of Paris, the mortality reached the number of eight hundred daily.

Christendom, those countries, the inhabitants of which profess Christianity.

Chronometer, a large watch or timepiece of very accurate construction, used to mark time in astronomical calculations.

Cicero, (Marcus Tullius,) the most distinguished writer and orator of Rome, contemporary with Antony, Cæsar, and Pompey. He was born B. C. 106. His greatest political act was the suppression of the conspiracy of Cataline. He was put to death by order of his enemies in the government, at the age of sixty-four years, and his head and hands were affixed to the spot, in the Roman Forum, whence his eloquence had often been poured forth.

Cincinnatus, (Lucius Quinctius,) a Roman commander, distinguished by his heroism, magnanimity, and disinterestedness of character, was born B. C. 400. Though of noble rank, he supported himself by cultivating the earth. Summoned from the plough to take the chief command, he twice delivered his country from great dangers, and was had in universal reverence.

Circulation of the blood, see *Harvey*.

Clew, thread wound upon a ball; hence a guide, direction, because men guide themselves by a thread in a labyrinth.

Columbia River, the most important stream flowing into the Pacific, on the western coast of North America. It was first discovered and entered in 1791, by Captain Gray, of ship Columbia, of Boston.

Columbus, (Christopher,) the discoverer of America, born about A. D. 1435, died May 20, 1506. For his life, see 'THE SCHOOL LIBRARY,' Larger Series, Vol. i., and Juvenile Series, Vol. xi.

Commentaries, written expositions on historical, constitutional, or legal subjects.

Commonwealth of England, the time intervening between the death of Charles the First and the accession of Charles the Second, embracing the supreme rule of Parliament and the Protectorate of Cromwell.

Compass, the mariner's, a magnetic needle (see *Magnetism*) suspended upon a pivot, and bearing a card, marked with the thirty-two points of direction into which the horizon is divided, and which are thence called the *points of the compass.* Its use is to guide the navigator in steering his course upon the ocean. Previous to its invention, in the fourteenth century, the mariner's only guides were the heavenly bodies, and in cloudy weather he was without any thing to direct his course. This period, therefore, forms an era in navigation, as, before it, men dared to sail only a short distance from land.

Constantine the Great, the first Emperor of Rome who established Christianity by the civil power, was born at Naissus, (now Nissa,) a town of Dardania, or Mœsia, A. D. 272. He was proclaimed Emperor of Rome, A. D. 306. He was converted to Christianity, and afterwards became the sole head of the Eastern and Western empires, A. D. 324. In 329, he founded a new capital of the empire, at Byzantium, which was called, after him, *Constantinople.* This city was the residence of the Emperors of the East till 1453, when it was taken by the Turks ; and after that, it became the residence of the Turkish Sultans. Constantine reigned thirty-one years, and died A. D. 337, aged sixty-five. He put a stop to the persecutions against the Christians, and allowed entire liberty of conscience.

Cook, (James,) *Captain*, a celebrated maritime discoverer, born in Yorkshire, England, November 3, 1728, and died February 14, 1779, a victim to the fury of the savage inhabitants of Owhyhee, or Hawai, one of the Sandwich islands. He was highly honored, during life, as a man of science. The narratives of his voyages are no less valuable to the geographer than interesting to the young reader. An account of his life may be found in the first volume of 'The Pursuit of Knowledge under Difficulties,' forming the fourteenth volume of 'THE SCHOOL LIBRARY,' Larger Series.

Copernicus, (Nicolas,) an eminent astronomer, born at Thorn, in Prussia, January 19, 1472. He revived the theory, now universally received and known to be true, (according to which, the earth and other planets revolve round the sun,) which had been previously discovered by Pythagoras ; before whose time, the earth was supposed to be stationary, and the sun and planets to revolve

around it. This theory was neglected, till its revival by Copernicus; and it has since been called, 'the Copernican theory,' and the system, 'the Copernican system.' For a notice of the death of Copernicus, see pages 236–238.

Cordilleras, a range of mountains in Mexico, the continuation of the chain of the *Andes*.

Corneille, (Peter,) one of the earliest and greatest writers of French tragedy, was born, A. D. 1606, and died, A. D. 1684.

Coronation, (from *corona*, a crown,) the ceremony of crowning a king, queen, or other kingly potentate.

Corpus, (Latin,) a body; a collection of works on similar subjects.

Cortes, (Fernando,) the Spanish conqueror of Mexico, was born, A. D. 1485. His name is eminent for bravery and ability, but infamous for cruelty and perfidy. Guatimozin, the Emperor of Mexico, was subjected, under his orders, to horrid tortures, to force a disclosure of concealed treasures, and afterwards executed. Cortes lived to the age of sixty-three years. His Life may be found in the twelfth volume of the Juvenile Series of 'THE SCHOOL LIBRARY.'

Cotton-gin, see *Whitney*.

Cover, a plate.

Crafts, see *Guilds*.

Crassuses. There were two distinguished Romans named Crassus. The first, Lucius, the most eminent orator of his day, was made *consul*, (chief magistrate,) B. C. 96. The latter, Marcus, a man of immense wealth, was a member of the first triumvirate, (or government by three magistrates, equal in power,) with Cæsar and Pompey, and died B. C. 53.

Crocodile, an enormous reptile, inhabiting the Nile, and other rivers of Africa. The *alligator*, found in the warmer parts of America, is a species of the *crocodile*.

Cromwell, (Oliver,) Protector of the Commonwealth of England, Scotland, and Ireland, was born A. D. 1599. He was actively engaged in the civil war during the reign of Charles the First, as a member of Parliament, and a military leader. He took a conspicuous part in the execution of Charles; and, as commander-in-chief of the army of the republican party, opposed and defeated his son, afterwards Charles the Second. He became sole governor, with the title of *Lord Protector*, in 1653, and retained that office till his death, in 1658. He was a man of remarkable abilities, as a statesman and a general.

Cross, the emblem of Christianity. The term, '*soldiers of the cross*,' is applied, both to the warriors, who, in the middle ages, fought for the recovery of Palestine from the Mohammedans, and to the peaceful missionaries of modern times.

Cuvier, Baron, the most eminent naturalist of the present age, was born, A. D. 1769, and died, A. D. 1832. He was Professor of Natural History in the College of France, and held various important posts in the French Government, at different times. His works on Natural History are of the greatest value.

Cycloidal curve, or cycloid, that curve which is formed by any one

point in the circumference of a circle, supposed to roll upon a straight line. Thus, each point in a carriage wheel or hoop, in motion, is constantly describing *cycloids*.

Cyrene, an ancient city in the north of Africa. Its ruins are an object of interest in modern times.

Czar, a title of the Emperor of Russia, derived, like the German Kaiser, (emperor,) from the word Cæsar, (which see.)

Dante, (properly Durante Alighieri,) a celebrated Italian scholar and Epic Poet, born at Florence, Italy, A. D. 1265. His *Divina Commedia* (Sacred Poem) is in three parts, *L'Inferno*, *Il Paradiso*, and *Il Purgatorio*, (Hell, Heaven, and Purgatory,) and is a grand monument of his sublime genius. (See page 265.) He was a soldier and statesman as well as an author. He died A. D. 1321, after a life of great vicissitudes.

Darius, King of the Medes and Persians, was a wise, just, and able prince. Though at the head of immense armies, he was repeatedly defeated by Alexander the Great. He was treacherously slain, by traitors of his own army, B. C. 330, at the age of fifty years.

Dartmouth College, located at Hanover, New Hampshire.

Davy, Sir Humphrey, one of the most distinguished chemists of the age, was born in Cornwall, England, A. D. 1779. His discoveries with the Voltaic battery, (see *Galvanism*,) his decomposition of alkalies, ascertaining their metallic bases ; and his invention of the miner's safety lamp, have obtained him a deserved reputation. He died in 1829. See page 136, and also the second volume of 'Pursuit of Knowledge under Difficulties,' forming the fifteenth volume of 'The School Library,' Larger Series.

Dead language, a language not spoken by any living nation ; such as the Latin and ancient Greek.

Decamerone, see *Boccaccio*.

December twenty-second, see *Plymouth*.

Delfthaven, a small town in Holland.

Delphi, the seat of the most celebrated oracle in ancient Greece, situated on the southern side of Mount Parnassus. The temple, where the oracles were delivered, was sacred to Apollo.

Democratie, democracy, populace.

Demosthenes, the greatest popular orator of antiquity, was born at Athens, B. C. 375. He overcame, by great exertions and laborious perseverance, the natural disadvantages of weak lungs, a shrill voice, and an imperfect utterance. His orations are elaborate but masterly efforts. He opposed, with consummate address and eloquence, the ambition of Philip, King of Macedon, who attempted to enslave Greece. He died by poison, at about the age of sixty years, not choosing to surrender himself into the hands of the Macedonians.

Despotism, a form of government, in which the power of the ruler, or *despot*, is unlimited ; hence, also, it signifies oppression, or tyranny.

Diapason, a chord which includes all tones ; an octave ; a term applied to one of the most important of the numerous classes of pipes which make up a complete organ.

Dictator, a magistrate of ancient Rome, chosen only upon great emergencies, and possessing almost uncontrolled power. The office was very limited in duration.

Dikes, dams ; masses or mounds of earth or other solid material, built up as barriers against the water of a river or sea. A great portion of Holland is redeemed from the ocean, by means of immense dikes.

Dieskau, Baron, commander of a body of French troops in Canada, in the war of 1755. He was mortally wounded at the battle of Lake George, September 8, 1755, but lived to reach England, where he died of his wounds.

Diorama, a perspective view of any historical scene, or of natural scenery, on a large scale, and with the light so arranged, as to give a most vivid and natural representation. A succession of such pictures is sometimes caused to pass, by machinery, before the eye of the spectator.

Distaff, a staff or stick on which the flax was wound, and from which it was drawn, in the old mode of spinning.

Divina Commedia, see *Dante*.

Dole, a gratuity ; provisions or money distributed in charity.

Dome, the vaulted roof of a public building. For descriptions of various domes, see 'The Useful Arts,' Vol. i., being Vol. xi., of 'THE SCHOOL LIBRARY,' Larger Series.

Dorian, or *Doric*, belonging to the Dorian race, or of a style common to that race. This race was one of the great branches of the ancient Greek nation. The *Dorian mood*, or *mode*, was one of the modes of arranging the musical scale, of which there were several in ancient music.

Drake, Sir Francis, a distinguished English navigator and naval commander, born A. D. 1545, and died A. D. 1596. He introduced the potato plant from America into Europe.

Driftwood, trees, logs, or other pieces of wood, which float down rivers, or in the sea.

Dryden, (John,) an eminent English poet, was born, A. D. 1631, and died A. D. 1700. His great power and melody of versification are strongly shown in his translation of Virgil. During the latter years of his life, having lost, under King William the Third, the pensions and places which he held under King James the Second, he was obliged to write for bread, and at so much a line. His 'Fables' contain some of his most poetical pieces.

Dunster, (Henry,) the first President of Harvard College, where he presided from A. D. 1640, till his death in 1659.

East-India Company, (the British,) a company of London merchants, chartered A. D. 1600, by Queen Elizabeth, who gave them the exclusive right to the commerce of India for fifteen years. The Company, successively rechartered, gradually attained great power and wealth, and finally, in the middle of the last century, by the civil and military genius of the celebrated Lord Clive, gained almost absolute control over the immense empire of Hindostan. Many officers and agents of the Company, before and after Clive, displayed, throughout, the greatest rapacity, enriching themselves at the expense of the unhappy Natives, who were alternately pil-

laged and oppressed by the English and their native masters. The charter of the Company was last renewed in 1834, with certain restrictions, calculated to secure great advantages to the people of India.

Egyptian, belonging to *Egypt*, a country in the northeastern part of Africa, remarkable for its stupendous remains of ancient architecture, such as pyramids, temples, &c.

El Dorado, 'the golden.' Some of the Spaniards, who came to America with Pizarro, on returning to Europe, excited the curiosity and cupidity of Europeans, by fictitious accounts of a region in the New World, called *El Dorado*, where gold and precious stones were as abundant as rocks and sand in other countries. A map and description of this fabulous country was published as late as about the year 1600.

Electricity, a very subtile elastic fluid, which pervades the material universe. Lightning is the sensible appearance of the electric fluid.

Electro-magnetic, connected with *electro-magnetism*, a branch of natural philosophy, which investigates the effects produced upon magnetic bodies by currents of electricity.

Elizabeth, *Queen*, the daughter of Henry the Eighth, by Anne Boleyn. She succeeded to the throne of England, after the death of her sister Mary, A. D. 1558. Though capricious in her feelings, and arbitrary in her temper, she manifested great sagacity and energy in the conduct of public affairs ; and, under her long reign, England constantly increased in wealth and power. The greatest stain upon her character was the execution, by her warrant, of her cousin, Queen Mary of Scotland, then a prisoner in England. Queen Elizabeth died, at the age of seventy years, A. D. 1602.

Ellsworth, (Oliver,) an American judge and statesman, was born in Connecticut, April 29, 1745, and died November 26, 1807. He took an active part in the Revolutionary struggle, was a member of Congress during part of the war, and in 1796 became Chief Justice of the Supreme Court of the United States.

Empyreal, pertaining to the highest and purest region of heaven.

Encyclopedists, school of. This term is applied to those who were engaged in preparing the great *encyclopædia*, (universal dictionary of knowledge,) published in France, about A. D. 1750. This work had an immense influence upon the literature, philosophy, and politics, of the age, and, in many respects, a most unfavorable one. Many of these writers, as stated on page 243, were "notorious for their disbelief of revealed religion."

English Church, or Established Church, the Episcopal form of church government,—by Bishops, Priests, and Deacons, as established in England.

En masse, (French,) in a body.

Ennius, an ancient Roman poet, of whose writings only fragments remain. He wrote 'Annals' of Rome, from the earliest times to his own, in heroic verse.

Epaminondas, a famous hero of Thebes, a city of Bœotia, in ancient Greece. He distinguished himself, in the wars between Thebes

and Sparta; and, as general of the Thebans, defeated the Spartans, whose force was much superior to his own, at Leuctra, a village of Bœotia, B. C. 378. He fell at the battle of Mantinea, in Arcadia, B C. 363, being then forty-eight years old.

Epicurus, an ancient Greek philosopher, who lived about B. C. 300. He taught that the *chief good* consists in a happiness springing from virtue. His own life was temperate and pure. But his doctrine became perverted, and the Epicureans, his followers, came to regard happiness as the result of sensual enjoyment.

Epos, (Greek,) a song; a poem describing heroic deeds or historical events.

Erasmus, (Desiderius,) an eminent scholar of the fifteenth century, was born at Rotterdam, October 28, 1467. He possessed taste and wit, and his writings exhibit a graceful style; but his cautious prudence rendered him less zealous than many of his friends could have wished, in the cause of the Reformation. His works occupy ten folio volumes. He died July 12, 1536, in the sixty-ninth year of his age.

Euphrates, one of the largest rivers of Asia, which rises in the mountains of Armenia, and flows into the Persian Gulf. It has been celebrated from the most ancient times, being mentioned in Genesis ii. 14, as one of the rivers of the Garden of Eden.

Eustathius, a very learned Grecian monk, bishop, and scholar, of the twelfth century. He was born at Constantinople, but when, it is not known. He was alive, however, A. D. 1194.

Euxine, the ancient name for the Black Sea.

Faneuil Hall, an edifice in Boston, used for public meetings and similar purposes. It was erected at the expense of Peter Faneuil, and by him given to the town of Boston, in 1740, for a town hall and market house. It is often called the 'cradle of American Liberty,' having been the scene of many of the earliest debates and resolves in opposition to the oppressions of England.

Fee simple, a term in English law. The person who owns a landed estate, free from incumbrances, is said to hold it in fee simple.

Fesolé, (properly, Fiesole,) a city of Italy, near Florence.

Feudal system, the name given to the system of rights and obligations subsisting between lords and their vassals, in Europe, during the middle ages. The vassal (subject) held his *fee* or *feud* (possession, estate) from the lord, subject to certain obligations, such as that of bearing arms in the service of his lord. Both smaller domains and whole kingdoms were governed upon this *feudal basis*, the king being the *feudal chief* of the lords, as these were, in turn, of their tenants and vassals.

Flavian house, the house, or family, to which the Roman Emperors Vespasian, Titus, and Domitian, belonged; their family name being Flavius.

Florentine, belonging to *Florence*, an Italian city, remarkable for its rich collections of works of art.

Forum, a public place, in ancient Rome, where assemblies of the people were held. It was surrounded by porticoes, and adorned with statues. Here courts were held for the administration of

justice. Hence the word *forum* is used to designate political assemblies, or political and judicial bnsiness.

Fossil plants. The name *fossil* is given to such animal or vegetable substances, as are found imbedded in any of the mineral *strata* (layers) of which the crust of the earth is formed. Thus we have fossil shells, fossil bones, &c.

Franklin, (Benjamin.) This celebrated philosopher, patriot, and statesman, was born January 17, 1706, in Boston, where he was educated a printer. He afterwards published a newspaper in Philadelphia. He took a conspicuous part in the Revolutionary struggle with Great Britain, filled the office of postmaster-general, of provincial and colonial agent aud representative in Great Britain, and, subsequently, of ambassador to France. His philosophical discoveries and inventions were of the most striking kind. He proved the identity of electricity with lightning, (see page 82,) and invented the lightning rod, now universally used for the protection of buildings. His numerous writings are marked by practical wisdom, strength, and humor. His manners were simple and unaffected; his conversation rich in instruction and anecdote. He died in 1790, at the age of eighty-four. His life will be found in one of the volumes of 'THE SCHOOL LIBRARY.'

Frederic the Second, the third King of Prussia, called *Frederic the Great*, was the most distinguished Monarch of the eighteenth century. He was born January 24, 1712. He possessed great military genius, was fond of literature and of the conversation of literary men, and was an encourager of the arts, agriculture, and manufactures. Like Cæsar, he united the talents of a writer with those of a warrior, and was author of numerous works, the collection of which occupies nineteen volumes. Prussia flourished during his reign, and the number of his subjects was trebled. He died August 17, 1786, in the seventy-fifth year of his life, and the forty-seventh of his reign, leaving more than seventy millions of Prussian dollars in the treasury, and a standing army of two hundred thousand men.

French Academy, an association of literary men, formed A. D. 1629, and consisting of forty members. It has exerted a remarkable authority in matters connected with criticism and language, and has published, among other works, a valuable dictionary of the French language. Its critical judgements have not always been ratified by the opinion of posterity.

French Revolution, the overthrow of royal power in France, and the establishment of a republic, in 1792. The destruction of the Bastille, (a fortified prison,) the deposition and execution of King Louis the Sixteenth, and the massacres of the royalists during the period called the reign of terror, are among the most prominent acts of this great tragic drama.

Fulton, (Robert.) For a biography of this eminent engineer and mechanist, to whom the world is indebted for the first successful application of steam-power to navigation, see the fourth volume of 'THE SCHOOL LIBRARY,' Larger Series.

Furtively, secretly, by stealth.

Galaxy, (milky way,) a long, bright track or belt of light in the sky, formed by innumerable stars of small apparent magnitude.

Galileo, (Galilei,) an eminent astronomer, mathematician, and natural philosopher, who was born in Florence, (some say at Pisa,) a city of Tuscany, in Italy, February 19, 1564. He made important discoveries and observations in relation to the laws of the pendulum, of falling bodies, and of the magnet. On hearing that an instrument had been discovered in Holland, by which distant objects could be easily perceived, his curiosity was excited, and the result of his investigations was the invention of the telescope, without having ever seen the Dutch glass. He afterwards much improved the instrument, and made the first practical application of it to astronomy. His discoveries with this instrument completely established the truth of the system of Copernicus, (*which see.*) But for the very works in which these discoveries were promulgatted, he was denounced by the Jesuits, (an order of Roman Catholic priests,) as a heretic. He suffered great cruelties, was confined in the dungeons of the Inquisition, and condemned to recant his belief in the great truths which he had proclaimed. His last years were passed in banishment, and embittered by pain, deafness, and blindness ; but his mind was still actively devoted to the studies which he loved, and which he had done so much to advance. He died January 8, 1642, in the seventy-eighth year of his age.

Gallia, the ancient name of France.

Gallican Church, the Roman Catholic Church of France, which dates the origin of its independence of the power of the Pope from the time of Philip the Fourth, (the Fair,) who subjected the French clergy to bear their share of the public taxes, prohibited all contributions to be levied by the Pope in his dominions, and made war upon Pope Boniface the Eighth. This resistance to Papal power is termed (page 56) the Catholic Reformation, in allusion to the great Protestant Reformation, commenced by Luther.

Galvanism, a principle or agent of a similar nature with electricity, discovered A. D. 1790, by Galvani, professor of anatomy at Bologna, in Italy, (see page 83.) It is developed by the contact of different substances, particularly the metals copper and zinc. When several plates of these metals are immersed in a trough of diluted acid, they form what is called a *Galvanic Battery*, (also called *Voltaic Battery*, from its inventor, Volta, professor at Pavia, Italy, who made many important researches in Galvanism.) By this apparatus, great light and heat are produced, the hardest minerals melted, and compound bodies decomposed.

Gengis Khan, a celebrated conqueror, the *Khan* (or King) of the Mongols, a great nation in the northeast of Asia. He conquered Tartary and China, and extended his devastations to most of Asia and a part of Europe. This scourge of the human race died A. D. 1227.

Genius. The ancients believed that every man was under the protection of a spiritual being, termed his *guardian genius*. The idea was extended, and thus we read of the 'Genius of human nature,' the 'Genius of Greece' or Rome. The *geniuses* or *genii* (properly, *jinnees*) of the East were regarded as superhuman

beings, grosser than angels, and more powerful than men. See *Aladdin*.

Genoese, belonging to Genoa, a city in the north of Italy, on the Mediterranean Sea.

Gens-d'armes, soldiers employed as police officers in France.

Ghibelline. A war was carried on in Italy and Germany in the twelfth and thirteenth centuries, between two parties, or factions, called the *Guelphs* and the *Ghibellines;* the former of which fought for the supremacy of the Popes and the independence of the cities of Italy, and the latter supported the cause of the Emperors of Germany.

Girard, (Stephen,) a merchant, who died at Philadelphia, in 1831, at the age of eighty-four, leaving a fortune of eleven or twelve millions of dollars, a large portion of which was devoted by him to the erection and endowment of a College for "poor white male orphans," in Philadelphia. His early history is noticed on page 321. The building destined for the Girard College is not yet completed, (1840.) The amount expended upon it, up to the first of January, 1840, amounted to one million one hundred and ten thousand six hundred and thirty-four dollars and sixty-four cents.

Glaciers, vast fields of ice, found in mountainous regions and in the frozen zone.

Gœthe, (John Wolfgang von,) a German poet and author, who was born A. D. 1749, and died in 1832. From about the year 1776, till his death, he resided at Weimar, loved and cherished by the Grand Duke of Weimar, whose prime minister he was for many years. His works are numerous, comprising poems, novels, dramas, and critical and scientific essays. He maintained for many years, by the acknowledgement of his contemporaries, the highest place in German literature, and is regarded by his admirers as "the first man of his nation and time."

Great Western, the name of one of the earliest steam-ships which crossed the Atlantic, and which still continues to run between England and New York.

Greene, (Nathaniel,) born in Warwick, Rhode Island, A. D. 1742, was one of the major-generals in the American army, during the Revolutionary War. The son of a blacksmith, he was indebted to his own exertions for his education. His life is to be read in the history of the American Revolution. He was remarkable for personal courage, resolute firmness of mind, prudence, and judgement. He died at the age of forty-four, June 19, 1786.

Greenlanders, inhabitants of Greenland, an extensive country in the north part of North America, belonging to Denmark.

Grotius, (Hugo,) or *Hugo de Groot*, a profound scholar and most able statesman, who was born at Delft, in Holland, April 10, 1583, and died August 28, 1645. His works on theology and on natural and national law have enjoyed a wide and great reputation.

Guatimozin, see *Cortes*.

Guicciardini, (Francis,) a celebrated Italian historian, was born at Florence, March 6, 1482, and died May 27, 1540. He was eminent as a jurist, and held several important offices under the Papal

government. His great work is a history of Italy from 1490 to 1534.

Guilds, or *crafts*, associations for carrying on commerce, or some particular trade, fully described in pages 85 and 86, of this volume.

Gypsum, or sulphate of lime, a mineral of great importance. One form of it is *alabaster*, employed, from its whiteness and beauty, for statuary and ornaments; another is *plaster of Paris*, employed for the fine plastering in the finishing of walls and ceilings, and of great use as a manure for land. See the first volume of 'The Useful Arts,' being the eleventh volume of 'THE SCHOOL LIBRARY,' Larger Series.

Hamilton, (Alexander,) one of Washington's aids-de-camp in the Revolutionary War, distinguished for his bravery, and for the confidence reposed in him by the Commander-in-chief. After the war, he practised law, with success, in New York, and was afterwards an active member of the Convention for framing the Constitution of the United States. On the organization of the Federal Government, in 1789, he was made Secretary of the Treasury, which post he held for five years, when he retired to private life. He fell in a duel with Colonel Aaron Burr, July 11, 1804, at the age of forty-seven years.

Hanse towns, (from the old German word *hansa*, a league,) the name given to a large number of European cities and towns, which were *leagued* together, in the thirteenth century, for the promotion and protection of commerce.

Harvey, (William,) an English physician, the discoverer of the circulation of the blood, was born at Folkstone, England, April 2, 1578, and died in London, June 3, 1657.

Heber, (Reginald,) Bishop of Calcutta, and celebrated as well for his talents and learning as for his zealous efforts to Christianize the inhabitants of India, was born in Malpas, England, April 21, 1783, and died in India, April 23, 1826. He was a beautiful poet, and writer and editor of many valuable works.

Hebrew, the language of the Jews.

Henry IV., King of France, from A. D. 1594 till his death in 1610, was a Prince of an heroic and noble mind, whose great achievements have gained him lasting renown, while his benevolent love for his subjects has endeared his memory to the nation.

Henry VIII., King of England, was born A. D. 1491, and came to the throne in 1509. His reign is remarkable for the spread of the principles of the Reformation, in England, which was in a great measure owing to the breaking off, by Henry, of his allegiance to the Pope. The Pope had *excommunicated* the King, (that is, declared him to be deprived of the privileges of Christian communion,) on account of his marriage with Ann Boleyn; and Henry declared *himself* the supreme head of the English Church. He was passionate and intolerant, inhuman and arbitrary, fond of power, and inconstant in his affections. Ho died in 1547.

Heroic age, or *period*, that early period, to which are to be referred the *heroes*, who were celebrated, in Grecian poetry and tradition, for wisdom, strength, and courage, who were regarded as a class

intermediate between men and gods, and to whom divine honors were often paid.

Herschel, (Sir William,) an eminent astronomer, remarkable for his unwearied devotion to observations of the heavens, for the construction of large and powerful telescopes, which enabled him greatly to enlarge the catalogue of known stars, and for his discovery of the planet which has received his name, was born in 1738, and died in 1822. His son, John F. W. Herschel, is also a distinguished astronomer.

Hesiod, an ancient Greek poet, supposed to have lived about four hundred years before Christ.

Hesperian, literally, western, from *Hesper*, the setting sun. The ancient Greeks gave the name *Hesperia* to Italy, the Italians to Spain; and it was also applied to certain islands in the Atlantic Ocean. The name Hesperus was also applied to Venus, when she appeared after the setting of the sun.

Hierarchy, literally, a sacred government; a priesthood, an ecclesiastical establishment.

Hieroglyphics, sacred engravings. The sculpture and inscriptions on ancient Egyptian monuments were so called, because supposed to be intelligible to the priests alone; the word is also applied to any writing by pictures.

Hindoos, the primitive inhabitants of the East Indies, Hindostan, or Hindoo-stan; a very ancient and numerous race, remarkable for their custom of requiring widows to burn themselves upon the funeral piles of their husbands, and for their division into *castes*.

Hindostan, or *Hindoo-stan*, the country of the Hindoos, an extensive region in the south of Asia.

Hispaniola, (Little Spain,) the name given by Columbus to one of the West-India Islands discovered on his first voyage over the Atlantic, but which has been since called St. Domingo, and Hayti.

Hobbes, (Thomas,) a celebrated moral and political writer and philosopher of the seventeenth century.

Homer, a very ancient Greek poet, and one of the most celebrated of any age. Little is known about his life. He is supposed to have lived about B. C. 900. His two great poems are the *Iliad*, describing some scenes in the siege of Troy by the Greeks; and the *Odyssey*, which celebrates the adventures of Ulysses, one of the Grecian chiefs.

Homeric, of, or relating to, Homer.

Horace, or *Horatius*, (Quintus Flaccus,) a Roman poet, of the most exquisite delicacy of perception and grace of expression, of the gayest and most abundant wit, and of the keenest and most humorous satire; though his poetry is deservedly censured for its licentiousness. He was born about B. C. 65, at Venusium, a town of Apulia, in Italy. He was a friend of Virgil, and was patronised by the Emperor Augustus. He died about B. C. 8, at the age of fifty-six.

Horoscope, a superstitious astrological observation of the position of the heavenly bodies at the moment of a person's birth, for the purpose of predicting his fortune. Making a figure of such position, is called *casting a horoscope*.

Humanity, or *the humanities*, polite and classical literature, in opposition to philosophy and science.

Huss, (John,) born about A. D. 1376, was one of the boldest and most resolute of the reformers. He was sentenced to death by a Roman Catholic council at the city of Constance, and was burnt at the stake, July 6, 1415. For an account of his last examination and death, see 'Great Events,' being the seventeenth Volume of 'THE SCHOOL LIBRARY,' Larger Series.

Hutchinson, (Thomas,) the author of a 'History of Massachusetts Bay,' was colonial governor of Massachusetts, from A. D. 1771 to 1774.

Hydra, the centre of the Greek maritime trade, is a rocky island, southeast of the Morea, about eight miles from the shore.

Hydraulic, relating to the motion or force of water. *Hydraulic press*, a machine in which the force of water is employed, for the purpose of obtaining an immense pressure. For a description of this press, (also called the Hydrostatic press) see 'Useful Arts,' Vol. ii., being the twelfth Volume of 'THE SCHOOL LIBRARY,' Larger Series.

Hyperborean regions, (regions beyond Boreas or the North Wind,) the name given by the ancients to the unknown countries of the North and West, where a delightful climate was reported always to prevail.

Iberia, the ancient name of Spain.

Iliad, see *Homer*.

Ilissus, a rivulet near Athens.

Indian Archipelago, see *Archipelago*

Indian Ocean, the ocean lying south of Asia, west of New Holland, and east of Africa.

Indus, a large river in the western part of Hindostan, flowing into the sea of Arabia.

Inquisition, a tribunal or court, established by the Popes in the thirteenth century, for the purpose of seeking out heretics and all who denied any doctrines of the Roman Catholic Church, and pronouncing sentence, without appeal, against their lives, liberties, and fortunes. It was established in most of the Roman Catholic countries of Europe ; in several of them was nearly independent of the civil power ; and in Spain, particularly, exercised an uncontrolled authority. The cruelties practised upon many of the victims of the Inquisition almost surpass belief, and no full account of the institution and its proceedings can be given in a brief compass. It was abolished in France, by Napoleon, in 1808, and in Spain, in 1820.

Ionia, the ancient name of one of the countries of Greece, but more commonly applied to a region in the eastern part of Asia Minor, which was settled by an Ionian colony.

Islands of the Blest, the Heaven, or Elysium of the very ancient Grecian mythology ; the Happy Islands, supposed to lie far to the west, in the Atlantic Ocean, where those beloved of the gods, freed from death, passed a life of quiet happiness.

Joe Smith, one of the leaders of the sect called Mormons.

Johnson, (Samuel,) one of the most conspicuous authors of his time,

was born at Litchfield, England, September 7, 1709. He was of a kind and generous disposition, and his character was elevated and honorable. His Dictionary of the English language is a compilation of immense labor, and still takes precedence of any later work of the kind. He was a sound and vigorous writer, and his 'Rambler,' a series of essays, unites great acuteness of observation, with elegance of illustration. His political treatises are rather declamatory than argumentative, and more sarcastic than just. He died December 13, 1784, at the age of seventy-five years, and was buried in Westminster Abbey.

Jones, Sir William, an eminent lawyer and Oriental scholar, born at London, in 1746. He died much esteemed and lamented, in 1794, at the age of forty-eight.

Jonson, Ben, a celebrated English dramatist, the friend and contemporary of Shakspeare. His best dramas are marked by strong humor and a vigorous conception and delineation of character. He was born A. D. 1574, and died in 1637.

Jubilee, every fiftieth year, celebrated as a festival among the Jews, in commemoration of their deliverance from Egypt. During this year, all debts were cancelled, slaves were freed, and estates, which had been sold, reverted to their original proprietors, or their heirs. The Roman Catholic Church also instituted a year of Jubilee, during which, the Pope granted plenary indulgences (full pardon for all sin) to all who confessed, and partook of the sacrament. The word jubilee is now used to signify any time of general rejoicing, or the commemoration of great events.

Julius Cæsar, see *Cæsar*.

July Fourth, the anniversary of the signing of the declaration of American Independence by the Congress, in 1776.

June Seventeenth, 1775, the day on which the battle of Bunker Hill was fought.

Kepler, (John,) a great German mathematician and astronomer. From the astronomical observations of Tycho Brahe, he deduced the laws which regulate the courses of the planets, known as the "three laws of Kepler," on which were based the subsequent discoveries of Newton, and the modern theory of the planetary system. He was born at Wurtemberg, December 27, 1571, and died in November, 1630, in the fifty-ninth year of his age.

Knox, (Henry,) one of the major generals of the American army in the Revolutionary War, was born at Boston, July 25, 1750. After rendering the most important services to the country, in several of the most celebrated events of the war, he filled, for many years, the offices of Secretary of War and of the Navy. He possessed, in an eminent degree, the confidence of Washington, and was remarkable for integrity, courage, and perseverance. He died October 25, 1806, aged fifty-six years.

Labrador, the most eastern part of North America, lying north of the Gulf of St. Lawrence, and east of Canada, and extending about seven hundred miles in length and five hundred in breadth. Its soil is barren, and it has been little explored.

Lampy, filled or studded with lamps.

Lancaster, (Joseph,) the suggester of a system of Monitorial Instruction, called, from him, the Lancasterian System.
Landward, towards the land.
La Place, (Pierre Simon,) a distinguished French mathematician and astronomer. His great works are the 'Exposition du Système du Monde,' (exposition of the system of the universe,) and the 'Mecanique Celeste,' (mechanism of the heavenly bodies.) He was born A. D. 1749, and died in 1827. (See *Bowditch.*)
La Plata, a large river in South America, flowing into the Atlantic.
Latin. The language of the ancient Romans.
Lavoisier, (Anthony Laurence,) a distinguished French chemist, born in 1743. His philosophical researches were very extensive and important to science. He was condemned to death by the Revolutionary tribunal at Paris, and executed in May, 1794, for the pretended crime of having adulterated snuff with ingredients injurious to the health of the citizens! On being arrested, he besought time to complete some interesting experiments in which he was engaged; but was answered, "the Republic does not want learned men nor chemists, and the course of justice cannot not be suspended."
Leghorn, a commercial city in Italy, on the Mediterranean, containing about sixty-five thousand inhabitants.
Leibnitz, (Gottfried Wilhelm,) one of the most celebrated philosophers and mathematicians of Germany. His theological and philosophical writings are characterized by much originality, and have given great impulse to philosophical inquiry. He was born in 1646, and lived to the age of seventy years. See the first Volume of 'Pursuit of Knowledge under Difficulties,' being Volume xiv. of 'THE SCHOOL LIBRARY,' Larger Series.
Leo X., (John de Medici,) ascended the papal throne in 1513, on the death of Julius the Second, at the age of thirty-eight. He possessed a taste for literature and the arts, and was fond of luxury and magnificence. His profuse expenditure in the construction of St. Peter's Church, at Rome, induced him to raise money by the sale of "indulgences," as they were called; that is of pardons for crimes which had been, or might afterward be, committed; an abuse which was one great cause of the Protestant Reformation, commenced by Martin Luther.
Leviathan, an immense fish, or marine animal, with scales, mentioned in the book of Job; and, from the description there given, supposed, by some, to be a crocodile, by others, a whale.
Lexington, a small town in Massachusetts, twelve miles from Boston, where the first armed resistance was made to British authority at the commencement of the Revolutionary War. A body of troops was sent from Boston, by General Gage, (the British governor of Massachusetts,) on the evening of April 18, 1775, to seize some military stores at Concord. A number of American militia were hastily drawn up, on Lexington common, on the morning of the nineteenth of April, to oppose them; and, on refusing to disperse, when insultingly ordered so to do, by the British officer, were fired upon. Seven were killed, and three wounded. They

retreated, while the British proceeded to Concord, and destroyed the stores. But the country had been roused, and small armed bands hung upon the flank and rear of the British, on their return to Boston, which they reached, after great loss, having been guilty of savage atrocities on their march, which disgraced the British name, and subjected the principal actors to deserved execration.

Leyden, church at. A small body of English Puritans who emigrated to the city of Leyden, in Holland, early in the seventeenth century, and there formed themselves into a church.

Lilies, formerly the royal device or emblem on the standards of the French monarchy. See *Lion*.

Lincoln, (Benjamin,) an American general, in the War of the Revolution, who particularly distinguished himself at Yorktown, and in the southern campaigns. He was born in 1733, and died in 1810.

Lion and the Lilies. The Lion is the royal device on the English standards, and the Lilies were formerly the royal device or emblem of the French monarchy.

Lisbon, the chief city of Portugal, containing about two hundred thousand inhabitants. It was, in 1755, the scene of a dreadful earthquake, which destroyed the finest portion of the city, and about thirty thousand inhabitants.

Locke, (*John*,) one of the greatest men that England ever produced, born in 1632. His style is simple and clear; his thoughts are profound and acute. His most celebrated works are his 'Essay on the Human Understanding,' and his two 'Treatises on Government,' which uphold the great principles of a free constitution, which have since been so fully developed and illustrated. He died October 28, 1704, in the seventy-third year of his age.

London, tower of. This ancient and extensive pile of buildings is situated on the northern bank of the Thames, covering about twelve acres of ground. In it are kept the '*regalia*,' or crown jewels, (as the crowns and sceptre,) also muskets and arms for two hundred thousand men, with various other objects of interest.

Longitude, the distance, measured by degrees, on the equator, east or west from a certain meridian called the first or prime meridian.

Lope de Vega, see *Vega*.

Louises. Among the long line of French kings who bore the name of Louis, several were patrons of literature and the arts.

Louis Philippe, the present King of France, was son of Philip, Duke of Orleans, a man whose name has become infamous from his conduct. He ascended the throne of France in 1830, after the expulsion of Charles the Tenth. (See Charles X.)

Lowland. The southern parts of Scotland, where the English tongue is spoken, are called Lowlands, in distinction from the northern or more mountainous part, called Highlands, where the Gaelic language prevails to a great extent.

Lucifer, (light-bearer,) the Latin epithet of Venus, the morning star. In the Greek mythology, this was the name of the son of Jupiter and Aurora. As leader of the stars, he had the charge of the chariot and horses of the sun, and is represented as riding on a white horse, and preceding Aurora; hence the name is poetical-

ly given to the morning star. The name also occurs in the fourteenth chapter of Isaiah, (verse 12,) to which passage reference is made on page 198 of this volume.

Lucretius, (Titus Carus,) a Roman writer, who was born about the year B. C. 95. None of his works survive, except a poem, in six books, called *De Rerum Natura*, (on the nature of things,) in which he discusses the principles of the philosophy of Epicurus.

Lunar observation, one of the modes of determining the longitude, at sea, by *observing*, with instruments, the angular distance of the *moon* from the sun and fixed stars, and comparing the time of observation with that time at which the Nautical Almanac shows a similar distance for the first meridian.

Luther, (Martin,) the first and chief of the Reformers, born at Isleben, a town of Saxony, November 10, 1483. He became a monk of the order of St. Augustine, but soon after threw off the cowl and the fetters of papal authority. He wrote and preached with great severity against the sale of indulgences, (see *Leo X.*,) advocated the free perusal of the Scriptures, the suppression of monasteries, and the marriage of priests or ministers. He completed, in thirteen years, a translation of the Bible into German, and published many powerful treatises on the doctrines of the Reformed faith. As a preacher, he was wise, practical, and eloquent. Possessed of a thorough knowledge of human nature, and of great sagacity, his courage was undaunted, and his constancy unshaken, amid all the threats and attacks of the Pope and Roman Catholic clergy; and nearly all Germany became ardently attached to his person and religious views. He died February 18, 1546, at the age of sixty-three, after a long and painful illness. For an account of his appearance before the Diet of Worms, see 'Great Events by Great Historians,' &c., forming the seventeenth volume of 'THE SCHOOL LIBRARY,' Larger Series.

Lybia, the ancient name of Africa, in general, west of Egypt; also a district in Africa, which now forms the territory of Barca.

Lyceum, a term applied to popular associations for the attainment of knowledge, by lectures, &c. The name is taken from that of the academy of the celebrated philosopher Aristotle, at Athens.

Lycophron, a Grecian grammarian, and author of several tragedies, who lived at Alexandria, Egypt, about the year B. C. 280.

Machiavelli, (Nicolo,) a celebrated political writer and statesman, born at Florence, A. D. 1469. His works are historical, political, and military. His most famous political work is entitled, 'Il Principe,' (the Prince,) the real design and intent of which, has given rise to much speculation. He was an original thinker, patriotic in his feelings, and frugal and simple in his life and manners. He died in 1527.

Macedonia, in ancient geography, a mountainous country, embracing the northern part of Greece; now forming a part of Turkey in Europe.

Mæcenas, or *Mecænas*, (Caius Cilnius,) the confidential friend of Augustus, and the patron of Horace and Virgil. Possessing great wealth, he was an indolent voluptuary in his habits, fond of pleasure, and of the curiosities of art.

Mævius, see *Bavius*.

Magna Græcia, the ancient name of the southern part of Italy, which was inhabited by Greek colonists.

Magnetism, that property, by which certain bodies are able to attract iron and steel towards themselves. It exists naturally in some kinds of iron ore. If a bar of iron be rubbed upon a piece of such ore, it acquires the power of attracting other iron, and if it be suspended by its centre, will take a direction nearly north and south, owing to the magnetic attraction of the earth itself, which is a large magnet. A slender bar or needle magnetised, and suspended on a pivot, is called a *magnetic needle*. See *Compass*.

Malthus, (T. R.,) an English writer on various subjects. He is best known by his Essay on the Principles of Population, the leading doctrine of which is, that population increases faster than the means of subsistence.

Mammoth, a species of elephant, of a large size, now extinct.

Mansfield, (Lord, William Murray,) an eloquent English lawyer, and distinguished jurist. He was for a short time Chancellor, and for many years Chief Justice of the Court of King's Bench. He was born at Perth, in Scotland, March 2, 1705, and died in London March 20, 1793, aged eighty-eight.

Mantinæa, a town of Arcadia, in that part of Greece, called the Peloponnesus, now the Morea. It is celebrated for a battle fought by the Thebans, under Epaminondas, and the combined forces of Lacedæmon, Achaia, Elis, Athens, and Arcadia, about B. C. 363, in which Epaminondas was killed.

Marathon, a village in Greece, celebrated as the place where Miltiades, the Athenian general, gained a great victory over the Persians.

Mariner's Compass, see *Compass*.

Marshall, (John,) the most distinguished constitutional jurist our country has produced. He was a native of Virginia, and after filling several high civil stations, was, in 1801, appointed Chief Justice of the Supreme Court of the United States, which office he filled till his death, which occurred in 1836. His decisions, on cases of the highest importance, were luminous and profound, and his genius, integrity, and learning, elevated, in public estimation, the character of the tribunal over which he presided. He was the author of a valuable Life of Washington, in five volumes.

Mary, Queen of England, was the daughter of Henry the Eighth, by his first wife, Catharine of Aragon, and succeeded to the throne on the death of her brother, Edward the Sixth, in 1553. She was born February 18, 1517, and died, after a reign of five years, November 7, 1558. She was a bigoted Roman Catholic, and her reign was remarkable for the relentless persecution of all who denied the Roman Catholic faith. In the course of it, two hundred and seventy-seven persons were burnt, as heretics.

Massasoit, a celebrated Indian sachem, very friendly to the English in the early settlement of Massachusetts Bay.

Mastodon, an animal of immense size, of the thickskinned order, now extinct. One skeleton measures eighteen feet in length,

eleven feet and five inches in height, with tusks ten feet and seven inches long.

Matthias, a notorious impostor, who, some years since, infested portions of the state of New York, claiming to be the inspired messenger of a new revelation from God, and imposed on several persons of property and standing.

Mausoleum, (plural *Mausolea*,) a tomb, so called, from *Mausolus*, an ancient King of Caria, in Asia Minor, to whom a sumptuous sepulchre was erected by his Queen, Artemisia. The name is now applied to any elegant sepulchral monument.

Mayflower, the name of the vessel which brought over the first of the Pilgrims, who landed on Plymouth Rock.

Mechanics' Institutes, associations of mechanics for the purpose of acquiring knowledge, by scientific lectures and classes for instruction.

Medicean age, a name applied to that part of the fifteenth century when the family of *Medici* attained their greatest power and influence in Florence, particularly under Lorenzo de Medici, who was a distinguished patron of literatnre and the fine arts.

Mediterranean, a large sea, lying between Europe and Africa, and separating them from each other.

Megatherium, (plural, *Megatheria*,) an immense animal, of the sloth kind, now extinct ; equal in size to a rhinoceros.

Memphians, inhabitants of *Memphis*, in Egypt, an ancient city of immense extent, and great architectural beauty.

Menander, an ancient Greek writer of comedies, a few fragments of which are now remaining. He was born B. C. 342, and drowned himself at the age of fifty-two years.

Menstruum, any liquid which is used to dissolve, or extract the qualities from other ingredients.

Meteora, peaks of, certain monasteries in Thessaly, not far from Trikkala, which are built upon the summits or pinnacles of rocks, and called *meteors*, from τὰ μετέωρα, which, in ancient Greek, signifies, "lofty places," "whatever passes in the upper regions of the air."

Mexico, a very extensive kingdom in the southwestern part of North America, conquered by the Spaniards, under Hernando Cortes, A. D. 1519, and from which they were expelled in 1829. It is now divided into several states, and contains a population of from eight to ten millions, who are mostly ignorant, and under the control of the Roman Catholic priesthood. Since the expulsion of the Spaniards, it has been the scene of constant insurrections and revolutions, where one bad ruler gives place to another.

Milky way, see *Galaxy*.

Milton, (John,) an illustrious English poet, born in 1608. He was the author of several political and theological works in prose, and composed the immortal epic poem of Paradise Lost, after the total loss of his sight. He was an Independent in Politics, was the friend of Cromwell, and Latin Secretary to the Council of State. He died in 1674, in tbe sixty-sixth year of his age.

Minerva. One of the goddesses of ancient mythology, presiding over arts and arms. One of her celebrated temples was at Sunium, a promontory of Attica, near Athens. See *Sunium*.

Moccasin, a kind of shoe, of deerskin, or other soft leather, made and used by the Indians.

Moles, large masses of earthwork or masonry, extending into the sea, for the protection of harbors against the violence of the waves.

Monastic Orders, the different brotherhoods or orders of monks. They were founded by various persons, and each order had certain rules of dress, diet, and duties, prescribed, of greater or less strictness and severity. Among them, are the orders of the Carmelites, Augustines, Franciscans, and Dominicans.

Monitorial schools, schools conducted upon the system of instruction introduced by Bell or Lancaster, and called the Monitorial or the Lancasterian system, according to which, the instruction is given to the younger classes, by older and more advanced scholars, called *monitors*, who, in their turn, receive direct instruction from the masters.

Monkish Chronicles. In many of the monasteries, the monks occupied themselves in compiling and transcribing the histories of celebrated Saints, or of their own monasteries, and sometimes histories and works of literature.

Mount Vernon. The name of the family estate of General Washington, on the banks of the River Potomac, in Virginia.

Muses. There were nine deities, called Muses, in heathen mythology, each of whom had the protection or patronage of some particular branch of science or art; as Clio, of history, Euterpe, of music, Thalia, of comedy, Melpomene, of tragedy, Terpsichore, of dancing, Erato, of lyric poetry, Polyhymnia, of eloquence and mimicry, Urania, of astronomy, and Calliope, of epic poetry. They were represented as beautiful virgins, and were worshipped by the Greeks and Romans.

Mussulman, (a corruption of *Moslemûna*, the plural of *Moslem*,) a professor of islam, or the true faith, among Mohammedans, or followers of Mohammed, who was the founder of a religious system in Turkey and Arabia.

Mystics, writers of various periods, who have employed themselves in discussing subjects of an abstruse and mystical nature.

Nantucket, an island, belonging to Massachusetts, lying about twenty miles south of the peninsula of Cape Cod. A great part of the inhabitants are engaged in the whale fisheries, which have been a source of great wealth to the island.

Naples, a city in Italy, the capital of the kingdom of the two Sicilies. It is situated on the beautiful Bay of Naples, and overlooked by Mount Vesuvius. The population number between three and four hundred thousand. Its climate is very mild and salubrious.

Napoleon Bonaparte, the most extraordinary warrior of modern times, was born August 15, 1769, at Ajaccio, in the island of Corsica, and educated in the military schools of France. He rapidly rose from the station of an officer of artillery to that of Emperor of France, the throne of which he ascended in 1804. He was constantly engaged in war, and was victorious in all his battles, till towards the close of his career, when he suffered reverses, and finally, at the battle of Waterloo, June 18, 1815, he was defeated,

and gave himself up to the English, by whom he was sent to the Island of St. Helena, where he remained a prisoner, till he died, May 5, 1821. The record of his various battles and other public operations would alone fill a volume; and of course cannot here be enumerated. His military genius has hardly been rivalled in any age, and it may be truly said, that his victories were not so much the consequence of fortunate accidents, as the results of vast scientific combinations and calculations, executed with boldness and precision. France is indebted to him for a most elaborate and comprehensive code of laws, and for various public works of great national importance and surpassing magnificence. Measures have just been adopted by the French government, for the removal of his remains to France, to be deposited under a public monument.

Nativities, the casting of, was the observation of the position of the celestial bodies, at the period of an infant's birth, for the purpose of ascertaining, by the rules of astrology, its fortune or destiny. The heavens were divided, for this purpose, into twelve parts or *houses*, called the *house* of life, of riches, of marriage, of death, &c.

Necromancy; the magical art of ascertaining the future by questioning the dead; whose voices were supposed to be heard from their graves. It is spoken of in the Jewish scriptures, and was practised in ancient Greece.

Netherlands, a European kingdom, lying between Prussia, Holland, France, and the German Ocean.

Newton, (Sir Isaac,) a most celebrated English philosopher and mathematician, born at Woolsthorpe, England, on Christmas day, 1642, and distinguished for his very important discoveries in Optics and other branches of Natural Philosophy. He decomposed light, and proved that it was not, as had before been supposed, a simple substance, but compounded of seven rays, possessing different coloring properties, and unequal *refrangibilities*, (tendencies to be turned aside, in passing through different transparent bodies.) He also discovered the theory of Universal Gravitation, or that law by which all bodies are attracted to and move round a common centre, as the planets move round the sun, and the sun and its planets round another sun or centre. This is called the *Newtonian theory*. His mathematical discoveries are too abstruse and intricate to mention in detail. He died March 20, 1727. See the first volume of 'Pursuit of Knowledge under Difficulties,' forming the fourteenth volume of the 'The School Library,' Larger Series.

New Zealanders, the natives of three islands in the Pacific Ocean, southeast of New Holland. As a savage race, they are remarkable for ferocity and energy of character, and for a quickness of appreciation of the advantages of civilized life.

Niger, a large river of central Africa, rendered famous by the explorations of Mungo Park, the Landers, and others, made in order to trace its stream and discover its sources.

Night Thoughts, see *Young*.

Nile, the only river of Egypt; a large and powerful stream, which rises in the interior of Africa, and, flowing through Nubia and Egypt, empties into the Mediterranean. It periodically overflows

its banks, and, by the muddy deposit left on the subsiding of the waters, fertilizes the corn and rice fields of Egypt.

Ninus, anciently a great Assyrian king and conqueror; the founder of Nineveh, a celebrated city.

Nomadic, rude; savage; having no fixed habitation, but leading a wandering life, engaged in tending and raising cattle, as the Tartars, Arabs, &c.

Norman Invasion. In the year 1066, William the First, Duke of Normandy, invaded England with his Norman followers, and obtained the English throne. This event is called the Norman Invasion, or Norman Conquest.

North star, the star nearest to the North Pole.

Northumberland, the name of one of the counties of England, and the title of the dukedom held by the ancient and noble family of Percy.

Nymph. In ancient mythology, certain deities, presiding over various objects, as fountains, forests, rivulets, &c., and represented under the form of beautiful girls, were called nymphs. The term is sometimes applied, poetically, to any fair or graceful girl.

Oar, chained to, see *Chained to the oar*.

Oaten pipe, a primitive musical instrument, formed of a series of oaten straws or reeds, played upon by the mouth.

Object-glass, in telescopes, is that glass which is placed nearest the object to be viewed. The glass at the other end is called the *eye-glass*.

Olmutz, a city in Moravia, surrounded by extensive fortifications. La Fayette was confined, for several years, in the prisons of the citadel.

Olympia, a city of Elis, in ancient Greece, celebrated as the place where the Olympic games were celebrated. These games formed one of the great national festivals of Greece.

Oracles, responses given by persons pretending to divine inspiration; also, the places where such responses were delivered.

Orang outang, a very large species of baboon, which, when walking upright, is nearly of the size of a man.

Orator, The, the title of one of the treatises of Cicero on oratory.

Orbit, the path described by a planet in its annual revolution round the sun.

Oriental, inhabiting, or belonging to, the East. The nations of Asia are called Oriental nations by Europeans.

Orion, the name of a constellation.

Orkneys, the name of a cluster of islands, near the northern coast of Scotland.

Ossian, a celebrated Gaelic, or Scottish Highland bard, (or poet,) who flourished about A. D. 300. His name is chiefly known by the publications of a Scottish writer, James Macpherson. Whether the poems attributed to Ossian were really his, has been very generally questioned, and they are by many supposed to be forgeries. Their subjects are partly narrative and partly lyric, treating of wars and Highland characters. They are in some parts pathetic, and contain beautiful images and comparisons. Their style i abrupt and sententious.

Otis, (James,) a distinguished American lawyer and patriot, who took a conspicuous part in the early scenes of the Revolutionary struggle. Of his great speech against the issue of *writs of assistance*, (which were warrants or writs demanded of the Supreme Courts of Massachusetts, to assist the custom-house officers in carrying into effect the laws passed by England regulating the trade of the Colonies,) John Adams remarked, "*American Independence was then and there born.* Every man of an immensely-crowded audience appeared to me to go away, as I did, ready to take up arms against writs of assistance." In the summer of 1769, he was severely wounded, in an affray at a coffee-house, with some British officers. He received a deep cut on the head, which is supposed to have caused the derangement of intellect under which he afterwards labored, and which, except during a few lucid intervals, continued till his death, which was occasioned by a stroke of lightning, in 1783, at the age of sixty. He was a man of an ardent and irascible temper; the character of his eloquence was impetuous, bold, and energetic. He was a sound classical scholar, and, as a lawyer, foremost in rank. As a patriot, his memory will ever be held by his countrymen in grateful remembrance.

Ottoman porte, Ottoman power, the name given to the supreme government of the Turkish empire. The term Ottoman is derived from Othman, or Osman, one of the greatest leaders or emirs of the Turcoman race, who took several provinces in Asia Minor from the Romans, and called himself Sultan. The *gate* of a magnificent palace of a son of Osman was called the *Porte:* hence the name. Osmanli is the correct national appellation of the people.

Otway, (Thomas,) an English dramatist of considerable merit, who was born in March, 1651, and, after struggling through life with poverty, and its accompaniments, sorrow and despondency, died, April 14, 1685, at the early age of thirty-four.

Ovando, one of the early Spanish governors of Hispaniola, about the year 1500. His administration, just towards the Spaniards, was cruel and oppressive towards the native inhabitants, his treatment of whom was treacherous, vindictive, and sanguinary. His behavior to Columbus was ungenerous and base in the highest degree. See 'Life of Columbus,' in 'THE SCHOOL LIBRARY,' Vol. i., Larger Series, and Vol. xi., Juvenile Series.

Oxford, a city in England, the seat of the University of Oxford, the most richly endowed literary institution in the world. The University buildings are very magnificent, consisting of twenty Colleges and five Halls, with the Clarendon Printing Office, the Radcliffe Library, the Theatre, the Bodleian Library, the Museum, &c.

Pacific Ocean, the great body of water lying west of America, between that continent and Asia.

Paganism, that system of religious worship, which is founded on a belief in a plurality of deities. The name *pagans* was applied by the ancient Christians, when the villagers (*pagani*) worshipped the heathen gods in villages, (*pagi*,) after Constantine had forbidden their rites in the cities.

Papal power, the power of the Popes, or Roman pontiffs, both eccle-

siastical and temporal, which was formerly very extensive. Their dominions embraced some of the finest provinces of Italy, and their religious supremacy extended over Christendom.

Papyrus, a sedge-like plant, from which the ancient Egyptians made the paper they used in writing. It grew in the swamps on the borders of the River Nile. Its use, however, was not confined to the making of paper. Sails, cordage, baskets, even boats, were constructed of this material.

Parnassus, a mountain in Greece, sacred, in ancient times, to Apollo and the Muses, and very frequently invoked by ancient and modern poets. *Delphi* (*which see*) lay at the foot of this mountain.

Parthenon, the temple of Minerva, at Athens, formerly a model of classic architecture, now in ruins.

Patagonia, a vast country, extending over the southern extremity of South America. It is a mountainous region, and much of it barren.

Patines, plates, dishes, (from the Latin *patina*, a dish.)

Patmos, one of the cluster of islands called Sporades, in the Grecian Archipelago, celebrated as the place of St. John's exile, and where he wrote the Apocalypse, or Book of Revelations.

Peers, House of, a part of the legislative body of Great Britain, composed of noblemen, and forming an Upper House, like the Senate of the United States.

Pericles, one of the most celebrated statesmen of Greece, during whose life (sometimes called the *Periclean age*) was the most flourishing period of Grecian arts and sciences. He was a man of vast sagacity and penetration, of commanding eloquence, and great military genius. He adorned the city of Athens with many magnificent public buildings and useful works. His great ambition, during the long time for which he wielded almost supreme authority, was, to place Athens at the head of the Grecian states, both politically and intellectually. He died about B. C. 429, after a lingering sickness ; and on his deathbed considered that it was his greatest glory "that he had never caused an Athenian to put on mourning."

Persians, the inhabitants of Persia, a large country in Asia, bordering on Russia and Turkey.

Peru, an extensive country of South America, discovered A. D. 1526, by the Spaniards, under Francisco Pizarro, and soon after conquered by him. It was then a rich and flourishing kingdom, governed by sovereigns called Incas, who were also the priests of the people. It abounded in very valuable silver mines. It is now a republic, having thrown off the yoke of the Spanish sovereignty in 1824. See Life of Pizarro, in the twelfth volume of the Juvenile Series of 'The School Library.'

Petrarch, (Francis,) an Italian poet and scholar, of great elegance, was born in Tuscany, A. D. 1304. His sonnets, written to his mistress Laura, overflow with beauty and tenderness, and are considered as masterpieces of lyric poetry. He died in July, 1374, at the age of seventy years.

Pharpar, a river of Syria, near Damascus, mentioned in 2 Kings v. 12. See *Abana.*

Phases, in astronomy, signifies the various appearances of any body, as of the moon, or of one of the planets, at its different ages ; also of the sun and moon in eclipse.

Phenomena, (plural of *phenomenon*,) novel appearances or natural facts, usual or extraordinary.

Phi Beta Kappa, a society, composed of a portion of the graduates and undergraduates of various colleges in the United States. *Alphas*, or branches, exist at several of the colleges, and their anniversaries are celebrated with literary exercises. The name consists of three letters of the Greek alphabet, which are the initials of the Greek words, *Φιλοςοφια Βιου Κυβερνητης*, *Philosophia Biou Kubernetes*, Philosophy, the guide of life.

Philip, King, a celebrated Indian sachem, son of Massasoit. In 1675, he commenced a bloody and relentless war against the English colonists in New England, but in the following year was shot, while lurking in a swamp.

Philip the Fair, the fourth King of France, of that name. He succeeded his father Philip the Third, A. D. 1285, and died A. D. 1314. See *Gallican Church.*

Philosopher's stone, see *Alchymists.*

Phocion, an Athenian general, distinguished for his upright and disinterested character. He was forty-five times appointed Governor of Athens ; and after faithfully serving his country, in the council and in the field, and gaining important victories, he was condemned to death, B. C. 318, by the Athenians, and forced to drink hemlock, which was a deadly poison. After his death, his countrymen became sensible of their error, and of his patriotism and truth, and raised a monument to his memory.

Phœnicians, the inhabitants of ancient Phœnicia, a narrow strip of land on the eastern shore of the Mediterranean Sea. They were celebrated for their maritime and commercial enterprise.

Pilgrims, the name given to the first settlers of New England, who emigrated to Plymouth and Massachusetts Bay.

Pindar, one of the most sublime lyric poets of ancient Greece. In his odes, he commemorates the victors at the games of Olympia, and the glories and conquests of Greece.

Pindus, a mountainous ridge in Greece, and, like Parnassus, the seat of Apollo and the Muses.

Pisa, one of the most ancient and beautiful cities of Tuscany, in Italy. In the middle ages, Pisa was distinguished by its enterprising commercial character, and the spirit of liberty with which she so long resolutely contended with Genoa and Florence. The 'leaning tower' at this place is an object of interest to travellers.

Piston, a movable cylinder, working in the barrel or hollow cylinder of a pump, fire-engine, steam-engine, or similar machine. It may be provided with a *valve*, (that is, a lid moving upon a hinge, or any aperture, so contrived as to allow the passage of a fluid in one direction and prevent it in another,) like the *box* of a common pump, or may be solid, as in a forcing pump or a steam-engine.

Pizarro, (Francisco,) the name of a Spanish general, celebrated for his adventures and conquests in the New World. After the most savage excesses and perfidious barbarities, exercised upon the native princes and people of Peru, he founded, in A. D. 1535, the city of Lima, and obtained the supreme authority over Peru ; but in 1537, he was murdered, in his palace, by Spanish conspirators. For his Life, see Volume xii. of 'THE SCHOOL LIBRARY,' *Juvenile Series*.

Plato, a renowned Greek philosopher, born about B. C. 429. At the age of twenty, he entered the academic school of Socrates, and enjoyed the instructions of that sage, for eight years, and till his death. The school of philosophy, which Plato founded, was called the *Academy*, from the place where he taught, (see *Academy* ;) and by his disciples he was called *the Sage*. The philosophy, taught in his dialogues, is of an elevated and sublime character.

Platform, a standard, basis, form, or plan.

Pliny, (the elder,) a celebrated Roman scholar, who was born in the year of our Lord, 23. He was a naturalist, and diligently noted all the phenomena of Nature. He fell a victim to his scientific curiosity, being suffocated, while observing the great eruption of Vesuvius in the year of our Lord, 79. He approached too near the crater of the mountain, and was choked with the sulphurous vapor which issued from it. His nephew, Pliny the younger, was an elegant scholar, and the author of a volume of epistles, which are well known.

Plutarch, a learned Greek historian and moralist. His 'Lives of Celebrated Men' are pleasantly written, and throw much light on ancient history, though not of the highest authority in matters of fact. He was born A. D. 50, and died at the age of about seventy years.

Plymouth, the principal town in Plymouth county, Massachusetts, was settled by the Pilgrims, who arrived there December 22, 1620, and were the first colony which reached New England. The anniversary of the landing has been usually celebrated by an oration, and various festivities.

Polarity of light, is that arrangement of the particles or rays of light, by which each ray, or small particle of a ray, by reason of different physical properties possessed by its different faces, turns, when reflected by two polished plates of glass, similar faces towards the same direction in space, so that in some positions of the plates, the ray is wholly transmitted, in others, wholly reflected.

Polynesia, the name given by geographers to the large clusters of islands in the Pacific Ocean, including the groups called Sandwich, Society, Friendly, and Caroline, Islands.

Portugal, a kingdom in the southwestern part of Europe, on the western side of the Spanish peninsula. The Portuguese were formerly distinguished for maritime and commercial enterprise. In the fifteenth and sixteenth centuries, their navy was the largest in the world, and their discoveries and colonial possessions were only equalled by those of Spain.

Potomac, a river flowing into Chesapeake bay, and forming, through its whole course, the line of boundary between the states of Mary-

land and Virginia. At its head waters, in Alleghany county, Maryland, and on the Virginia side, are vast beds of valuable iron ore and bituminous coal.

Potsdam, the favorite residence of the Great Frederic, King of Prussia; who built several palaces and military schools there. It lies seventeen miles from Berlin, and contains about twenty-five thousand inhabitants.

Powerloom, see pages 143 and 144, and also Bigelow's 'Useful Arts,' and 'Pursuit of Knowledge under Difficulties,' forming volumes xii. and xv., of 'The School Library,' Larger Series.

Practical Navigator, see *Bowditch*.

Prague, the capital city of Bohemia. It contains the most ancient university in Germany.

Priestley, (Joseph,) an eminent philosopher and divine. His scientific researches and discoveries in chemistry and electricity, and on the subjects of heat, light, and colors, are numerous and valuable. He was born in 1733, and died in the United States, in 1804.

Protestant Reformation. Luther and his followers, who *reformed* the many abuses in the Romish church, *protested* against certain resolves of the *diet* (council) at Spire, and were thence called *Protestants*. The great Reformation which followed, emancipating a large portion of Christendom from its allegiance to the power of the Pope, and resulting in general freedom of religious belief, and which is looked upon as the great modern era in religious history, was also hence called the Protestant Reformation.

The *Ptolemaic scheme* of the universe was that of the Greek philosopher, Ptolemy, who supposed the earth to be immovable, in the centre of the universe, while all the other heavenly bodies moved round it in circles.

Ptolemy was the common name of thirteen kings who reigned in Egypt. The first three were especially the patrons of learning at Alexandria.

Puritans, a name first given to a numerous religious sect in England, in the time of Queen Elizabeth, who laid aside the English Liturgy, adopted the Geneva service-book, and generally embraced freely the doctrines of Calvin. They were termed Puritans, because their form of worship and church government claimed to be *purer* than that of the English Church. They objected to the priestly authority in the English Church, to kneeling at the Sacrament, and to the wearing of surplices and other vestures during Divine service. During the subsequent reign of James, they were politically persecuted, and numbers fled to Holland and America. In the reign of Charles the First, the Puritans, and a more violent party, called Independents, who were republicans in politics, overthrew the monarchy, beheaded the King, and created a *commonwealth* in England.

Pyramids, colossal structures, supposed to have been erected by the Egyptian kings. They are in Middle Egypt, and are about forty in number. The height of the largest is between six and seven hundred feet. They have been explored by Denon and Belzoni. Their peculiar shape is well known. For a representation and

description, see 'Useful Arts,' Volume xi. of 'THE SCHOOL LIBRARY,' Larger Series.

Pythagoras, a Grecian philosopher, who flourished five or six hundred years before Christ, and rendered great services to philosophy and morals. He established a school, called the Pythagorean school, in which his numerous pupils were taught to live with temperance and simplicity, passing their time in exercise, and in the study of science, morals, music, &c. The moral maxims of Pythagoras were pure and elevated, inculcating friendship, moderation, temperance, sobriety, self-command, justice, &c.

Quadrant, an astronomical instrument, used to measure the arc of any great circle in the heavens, in order to determine the *altitude* or angular height of a heavenly body above the horizon, or the angular distance between one heavenly body and another.

Quahog, a kind of muscle, or shellfish.

Quakers, or, as they prefer to be called, *Friends*, are members of a society of Christians, founded by George Fox, in England, about the middle of the seventeenth century. They believe that wars are forbidden in the sacred writings, and refuse to bear arms. They deem it unlawful to take judicial or other oaths. They do not consider baptism as a sacrament necessary to the Christian. They require great simplicity in dress, in their private houses, and in houses of worship. They use the second person singular of the personal pronoun, (*thou* and *thee*,) in addressing others. The early Quakers, both in England and America, suffered cruel persecutions, with the greatest firmness and even cheerfulness; being frequently fined, whipped, banished, deprived of property, and even executed.

Racine, (Jean,) a distinguished writer of French tragedy, born in 1639. The subjects of his dramas were drawn from the Grecian and Roman classics. His tone of feeling and action is pure and elevated, and his delineations of the passions are very true to nature. There is a certain stiffness and coldness in his manner, which, however, is more the result of the peculiar critical rules of his time, than the dictate of his own genius. He died in 1699.

Raphael, or Raffaello, (Sanzio,) the greatest painter and architect of his age, was born at Urbino, Italy, on Good Friday, A. D. 1483, and died at Rome, on his birth day, A. D. 1520. At an early age he executed several remarkable works. In power of composition and expression, he has never been surpassed. In his greatest compositions, is found the most perfect simplicity, united with wonderful grandeur, dignity, and harmony. His countenance and figure were strikingly beautiful. In temper he was kind and obliging, in his manners modest and amiable, and he died beloved by all classes, both high and low.

Rayas, literally, *a flock*, the term by which all subjects of the Turkish empire, who are not Mohammedans, are designated.

Reformation, see *Protestant Reformation*.

Reformation, Catholic, see *Gallican Church*.

The *Restoration*, (in English history,) the return of King Charles

the Second, in 1660, after the death of Cromwell and the restoration of the monarchy in England.

The *Revolution of* 1688, (in England,) the event, which resulted in the abandonment of the throne by James the Second, (of the house of Stuart,) the reigning King, when William the Third, then Prince of Orange, landed in England, for "the preservation of English liberty and the Protestant Religion." William was well received by the majority of the English nation, and the Parliament declared the throne forfeited, by the conduct of James, and William and his consort, Mary, (a daughter of James,) to be King and Queen of Great Britain.

Revolutionary War, (American,) that in which the United States, then British Colonies, contended with Great Britain, and achieved their political independence. It commenced in 1775, and continued till 1783.

Rhine, a celebrated river in Germany, pursuing a course of nine hundred miles, from its source to the sea. Its banks have been the scene of many memorable events in history; and are adorned with flourishing cities and villages, castles and their picturesque ruins, extensive forests, and luxuriant vineyards. The Germans regard this river with great reverence, and it is often styled by their poets, 'Father Rhine.'

Robinson, (John,) Pastor of the English Puritans at Leyden, in Holland, a man of high reputation for talents, piety, and learning. A part of his society emigrated to Plymouth, in 1620, and he died, when preparing to join them, in 1625.

Roman daughter, the heroine of a legend or story, not entitled to entire credit, which states that a lady of Rome, when her aged father was confined in prison, to die by starvation, obtained permission to visit him, and though strictly searched, that she might convey him no sustenance, supported his life, by feeding him, as an infant, at her breast.

Rome, which has been called 'the Eternal City,' 'the mistress of the world,' and 'the mother of nations,' is a city of Italy, situated on both sides of the River Tiber, near the Mediterranean. For upwards of two thousand years have the principal occurrences in history been connected with her religious or political policy, her arts and arms. The Pope resides here; but the city now presents but the shadow of her former greatness.

Rothschild, the name of a family, of whom there are several brothers, bankers of vast wealth and resources, having branches of their house at London, Paris, and Hamburg, and agencies at almost every city in the world. They have been connected with most of the important financial operations of the last fifty years.

Rotten boroughs were places in England, which, from their ancient prosperity or population, were entitled to send members to the House of Commons. Though decayed in wealth, and inhabited only by from one to twenty families, they still enjoyed the privilege of electing members, till they were deprived of their privileges, by the Parliamentary Reform Bill, in 1832.

Royal Academy, an association established in London, by the royal charter, in the year 1768, for the encouragement of works of art.

It consists of forty members, called Royal Academicians, twenty Associates, and six Associate Engravers. It possesses a collection of casts and models from ancient statues, valuable paintings, &c. It has an annual exhibition of works of art, and awards medals for the best paintings, drawings, sculptures, &c.

Royal Institution, a society established in London, A. D. 1800, for facilitating the general introduction of useful mechanical inventions and improvements, and for teaching, by courses of philosophical lectures and experiments, the application of science to the common purposes of life. It is chiefly indebted, for its origin, to our countryman, Count Rumford. It has a spacious building, appropriated to its use, in which are a library, cabinet of minerals, chemical laboratory, repository of models of useful machines, lecture-theatre, &c. &c.

Rumford, Count, (Benjamin Thompson,) was born in Woburn, Massachusetts, in 1752. He went to England, at the commencement of the Revolutionary War, having espoused her side in the contest, and was engaged in the 'Foreign Office.' At the close of the War, he commanded a regiment of Dragoons. On his return to England, in 1784, he was knighted. Soon after, he entered into the service of the Duke of Bavaria, by whom he was created a General and Count, as a reward for various important services rendered. In 1799, he returned to England, and occupied himself in scientific and chemical researches, particularly on the subject of heat. He was the principal founder of 'The Royal Institution of Great Britain,' mentioned in the preceding article. Preferring the climate of France to any other, he resided in that country, and died, near Paris, in 1814.

Russia, a powerful empire, stretching over half Europe and the whole of Northern Asia, possessing large territories on the western coast of North America, and comprising about one seventh part of the habitable globe. The population exceeds sixty millions.

Sabæan, belonging to a province of Arabia, called Yemen, of which the chief city was *Saba*. The country produces myrrh, frankincense, and other fragrant gums.

Sabines, a warlike and pastoral people, anciently dwelling in Italy, and peopling the mountainous country of the Apennines. They were frequently at war with the Romans.

Safety lamp, the miner's lamp, invented by Sir H. Davy, which consists of a small light, fixed in a lantern or cylinder of fine wire network. The body of the lamp is of solid metal, screwed closely to the cylinder, so as to leave no opening into it. By this simple arrangement, the flame can never come into such a contact with the inflammable gas, or *fire-damp*, as to produce those dreadful explosions so frequent in mines, prior to this invaluable invention.

Sage of the Academy, see *Plato*.

St. Lawrence, a large river of North America, forming, for a considerable distance, the boundary between the United States and Canada, and flowing in a northeasterly direction into the Gulf of St. Lawrence, and the Ocean.

St. Paul's, a large cathedral in London, built by Sir Christopher Wren, between the years 1675 and 1710, the former cathedral,

on the same spot having been several times injured and destroyed by fires. The present noble fabric holds the most distinguished place among the modern works of architecture in Great Britain, and is second only to St. Peter's, at Rome.

St. Peter's, a magnificent church at Rome, the largest in the world, built, at a vast expense, out of the papal revenues, between the years 1506 and 1614.

St. Petersburg, the capital of Russia, and a beautiful and splendid city. The population, in 1830, was nearly half a million. The churches, palaces, and other public buildings, are numerous and magnificent.

Sandstone, a kind of stone, very common, and of great importance for building. It is composed of grains of some more ancient rock, once in the state of loose sand, and held together by a cement. For an account of the tracks of remarkable animals in the sandstone on the Connecticut River, mentioned on page 252, see 'Sacred Philosophy of the Seasons,' Vol. i. pages 352–354, 'SCHOOL LIBRARY,' Vol. vii., Larger Series.

Sandwich Islands, a cluster of ten islands in the Pacific Ocean. The natives are gentle and intelligent, and, since their adoption of Christianity, have exceedingly improved. They were first discovered by Captain Cook, in 1778. There are now in the islands a thousand schools, having fifty thousand scholars.

Saratoga, a town in New York, memorable as the place where General Burgoyne surrendered the British army, of nearly six thousand men, to General Gates, October 17, 1777. It is now a place of great resort, on account of its mineral springs.

Saturn, one of the planets of our system, surrounded by a ring, or luminous circle, which is estimated to be nearly one hundred and twenty-nine miles in thickness.

Saxon, the language of a warlike and piratical people, called Saxons, one of the great Northern German tribes. In the middle of the fifth century, under Hengist and Horsa, they founded the Saxon kingdom in Great Britain.

Schiller, (Frederic,) one of the most illustrious poets and dramatists of Germany, was born in 1759. He was intended for the profession of the law, but his zeal for literature led him to devote himself to poetry, history, and the drama. He was an ardent lover of all that is noble and beautiful, and his poems abound in magnificence and energy. He was an intimate friend of Goethe. He died at Weimar, at the age of forty-six.

Schoolmen, a name given, during the middle ages, to a class of philosophers and logicians, who taught a peculiar kind of theological philosophy. The name is derived from the *schools* founded by the Emperor Charlemagne, for the education of the clergy.

Scipio. There were several celebrated Romans of this name; two of whom, Publius Cornelius, and Publius Æmilianus, were surnamed Africanus, from having both distinguished themselves by their conquests in Africa. The former died, B. C. 184, and the latter, B. C. 128. Lucius Cornelius, brother of Publius Cornelius, was surnamed Asiaticus, from his triumphs in Asia. These, as well

as others of the same name, were men of great military skill, uniting courage with magnanimity, and patriotism with integrity.

Scott, Sir Walter, the most popular author of the present century, was born at Edinburgh, Scotland, in 1771. He is the author of 'Marmion,' 'the Lady of the Lake,' and many other romantic poems, describing the national Scottish manners of the feudal ages; of a series of national romances, called the 'Waverley Novels,' (from the title of the first of the series,) of great genius and interest; and of many biographical and other literary works. He died, at Abbotsford, September 21, 1832, in the sixty-second year of his age.

Scythia, the ancient name of an extensive country in the eastern part of Europe and western part of Asia, now comprised within the limits of Russia.

Selden, (John,) an eminent English writer upon politics and antiquities, born in 1584 and died in 1654. He was repeatedly imprisoned, by royal authority, on account of his bold language in Parliament against royal usurpations.

Senate house, in ancient Rome, the place of assemblage of the *Senate*, a council composed of the chief men of the state, and exercising, in the earlier periods of Roman history, the chief authority of the nation.

Seneca, (Marcus Annæus,) a learned rhetorician and philosopher of ancient Rome, who flourished during the first half century after Christ. He was the tutor of the youthful Emperor Nero. Being suspected, by that prince, of being connected with a conspiracy against his life, he was put to death, A. D. 66.

Serf, a vassal, a slave.

Sesostris, an Egyptian king and conqueror, who flourished about fifteen centuries before Christ, and was reputed to have been the author of various stupendous works of public improvement.

Settlement, in a parish in England, is a right of maintenance, in case of poverty, by the parish, obtained by a residence for a certain time in the same. See page 87.

Seven Years' War, a war, which continued from 1756 to 1763, between France, Austria, Saxony, and Russia, on one side, and Prussia and England, on the other. In Europe, Frederic of Prussia, against whom the war was principally waged, displayed in it great military ability. In America, the English and French colonies were also involved.

Shakspeare, (William,) was born in 1564, and died in 1616. Of the incidents of his life, little is known with accuracy. He left Stratford upon the Avon, his birthplace, for London, at about the age of twenty-two, and became an actor at the Globe theatre. He soon commenced writing for the stage, and continued to do so till within a few years of his death. The character of Shakspeare's genius is too universally known to require comment. The *supreme* place, in the realm of poetry and creative thought, seems to be accorded to him by the general consent of cultivated and uncultivated minds.

Shetland, New South, a cluster of islands south of Cape Horn, so named from the *Shetland* Islands, a cluster north of Scotland.

Shorthand, the art of writing, in an abbreviated manner, in less space than is occupied by common writing, and with greater rapidity, by employing simple marks, in place of letters, and sometimes of words and sentences.

Siberian, belonging to Siberia, a vast country comprising all the north part of Asia, and subject to intense cold.

Sicily, a large island in the Mediterranean Sea, south of Italy, and remarkable for its fine climate, populousness, and fertility.

Silex, a mineral, forming the principal ingredient in pure flint.

Sirius, the most brilliant of the fixed stars, the largest in the constellation or cluster called Canis Major, or the Great Dog.

Smith, (John,) *Captain*, a celebrated adventurer, born in England, in 1579. When about the age of twenty, he entered into the service of the Emperor of Austria, then at war with the Turks, and distinguished himself by his bravery. He was at length taken prisoner by the Turks, (being left for dead on the battle field,) but escaped, and, returning to England, joined the Virginia expedition, in 1606. His courage and energy soon gave him the presidency of the colony, at Jamestown, and in the protracted war with the Indians, he displayed all his customary daring and intrepidity. He died at London, in 1631. For a full biography of Smith, see 'Lives of Eminent Individuals,' Vol. i., being Vol. iv. of 'The School Library,' Larger Series.

Snowshoes, frames, shaped like a large shoe-sole, and strapped to the feet, to support the body in walking upon the surface of snow, without sinking, much used by the Indians and Canadians.

Socrates, an illustrious philosopher and moralist of antiquity, born at Athens, B. C. 470. He seems to have been a model of wisdom and goodness, and to have passed his life in teaching his fellow citizens their religious, moral, and social duties. He taught and insisted upon self knowledge, self control, temperance, justice, and the great doctrine of the immortality of the soul. The great Plato was one of his disciples. He was unjustly condemned to death, by a popular tribunal, upon the wicked and absurd charge of corrupting the Athenian youth, and sentenced to drink hemlock, (a deadly poison,) at the age of seventy. His calm and tranquil death was in accordance with the character of his long life.

Solar walk, the ecliptic, the apparent path described by the sun, in the heavens, during the year.

Solon, a celebrated Athenian lawgiver, who flourished about the year B. C. 600. He was one of the "seven wise men" of Greece, and his system of laws was just and merciful.

Solstice, the name given to those two opposite points in the earth's orbit, and to the two periods of the year, at which the sun, in reference to his progress north and south, appears to *stand still*. The Summer solstice takes place about the twenty-first of June, the Winter solstice, about the twenty-first of December.

Solyman the magnificent was proclaimed Sultan in 1520. He was the greatest of all the Ottoman emperors, and extended his power by numerous victories, both in Europe and Asia. His political wisdom was no less remarkable than his military skill; he caused the courts of law to be respected, and equity and justice to be

administered. He was very ambitious and indefatigable in his schemes of conquest, and died in 1566, while besieging a city in Hungary.

Sophocles, an illustrious Greek poet, born B. C. 495. He died at a very advanced age. His tragedies are written in a dignified and elevated style, with great elegance of versification, and purity of language.

Spanish Main, the Atlantic coast along the north part of South America, from the Leeward (or North Caribbee) Islands to the isthmus of Darien.

Sparta, one of the states of ancient Greece, in the southeastern part of the Peloponnesus. The Spartans were the rivals, in war, of the Athenians, and were as remarkable for simplicity and severity of manners, as were the latter for cultivation and refinement.

Spartacus, a Thracian gladiator, who organized an extensive conspiracy among the slaves in Italy. By his courage and military skill, he gained several victories over the flower of the Roman army, but was at last defeated and slain, A. D. 71, though commanding an army of some sixty thousand men.

Spenser, (Edmund,) a celebrated English poet, born in London, about A. D. 1553. His great poem is called the 'Faery Queen,' and is full of beautiful sentiment and imagery, and exquisite descriptions of character. He died at the age of forty-six.

Stael, Madame de, a woman of extraordinary intellectual power, and the most distinguished female writer of her age. She was the daughter of Monsieur Necker, a banker and minister of finance, and was born at Paris, in 1766. Her wit and conversational powers rendered her the ornament of Parisian society. Her works are numerous. She passed many years in exile, at Geneva, being forbidden by Bonaparte to dwell near Paris. She died in 1817.

Standish, Miles, one of the founders of Plymouth colony, who possessed some military skill, and was generally Captain of the small bodies of soldiers which were drafted from time to time to oppose the Indian attacks.

Stark, (John,) a brave general in the Revolutionary War. He commanded at the battle of Bennington, when the British and German mercenaries were defeated with great loss, and one thousand stand of arms taken from them. He died in 1822, at the age of ninety-three years. For a full life of Stark, see 'Lives of Eminent Individuals,' Vol. i., being Vol. iv. of 'THE SCHOOL LIBRARY,' Larger Series.

Stars and stripes, the American standard, which bears thirteen stripes, for the number of the original states, and as many stars as the number of states for the time being.

Steppes, extensive dry plains in Asia, capable of some cultivation, and affording pasturage for numerous herds of cattle.

Stoicism. The principles of the *Stoics*, one of the sects of ancient philosophers, encouraged a stern, unbending, rigid virtue, and a resolute contempt for pain and suffering. Hence *Stoicism* signifies unyielding firmness, inflexibility, insensibility to passion and affection.

Stolidity, stupidity, foolishness.

Strata, (plural of *stratum*,) beds or layers, in which a large proportion of the minerals forming the crust of the earth are disposed.

Sunderland, Lord, was successively a minister of state under Charles the Second, James the Second, and William the Third. He died in 1702. He has been called "a man who changed his party as easily as his dress."

Sunium, a promontory of Attica, in Greece, about thirty miles from Athens. There was formerly a beautiful temple of Minerva here, some of the remains of which are still to be seen. Several columns are standing, which have obtained for the promontory the name of Cape Colonna, or Cape of the Column. See *Minerva*.

Swiss, belonging to Switzerland, a mountainous country in Europe, lying between France, Germany, and Italy.

Syria, a country in the west of Asia, forming part of the Ottoman empire. It lies on the east coast of the Mediterranean Sea. Palestine, or the Holy Land, is in Syria.

Tacitus, (Caius Cornelius,) a Roman historian, remarkable for his brief and condensed style, his philosophical acuteness, and thorough penetration into character. He flourished during the first century after Christ.

Tartars, inhabitants of Tartary, an extensive country in Asia.

Tasso, (Torquato,) one of the greatest of Italian poets, was born in 1544. He early manifested a strong inclination to poetry, and produced, at the age of seventeen, an epic poem, which was received with great admiration. His great work, the 'Jerusalem Delivered,' composed with great poetic fervor, was elaborated with extreme care. The latter years of Tasso's life were clouded with misfortune. He was confined in a madhouse, for a considerable time, by order of his former patron and friend, the Duke of Ferrara, and treated with great cruelty. He died in 1595.

Tattooing, the practice of marking the skin with various figures, by pricking it with sharp instruments, and staining it permanently with different colors. It prevails among various tribes of savages, particularly in the South Sea Islands.

Technicalities, terms and phrases belonging to some art or science, and not in common use.

Telescope, an instrument, formed by inserting *lenses* (curved glasses) in a tube, and which enables us to see distant objects, and the heavenly bodies, with as great distinctness as if they were at a much less distance. See *Galileo*.

Terence, or *Terentius*, (Publius,) a Roman writer of comedies, born about the year B. C. 194. He was born in Carthage, in Africa, and, when a child, was brought as a slave to Rome where he received a good education, and, having been emancipated, was admitted to the intimacy of some of the chief men of Rome. His comedies were much admired.

Thebes, an ancient city in Upper Egypt, famous for the immense extent of its magnificent public buildings and monuments, the ruins of which, at the present day, are objects of great interest to the traveller.

Thermopylæ, a narrow pass, in the northern part of Greece, between Mount Æta and the sea. It was here, that a desperate resist-

ance was made, by a body of three hundred Spartans, under Leonidas, against the Persian army, B. C. 480.

Thesaurus, literally, a treasury, magazine, or storehouse. Hence the word is applied to large works, such as complete dictionaries, collections of antiquities, &c.

Theseum, or temple of Theseus, a splendid temple of Athens, sacred to Theseus, an ancient hero and king of Athens. The remains of the temple are in good condition, but some modern additions have been made to it.

Thrace, in ancient geography, a mountainous country lying northwest of Macedonia, and bounded by the Black and Ægean Seas.

Thule. The ancients gave this name to the most northerly country with which they were acquainted. It is uncertain what spot was designated by the name; it is supposed, by some, to have been the coast of Norway; by others, Iceland.

Timbrel, or tambourine, a kind of drum, hung with bells, and beaten with the hand.

Tissue, cloth interwoven with gold and silver, or figured colors; any variegated woven fabric.

Titian, one of the most celebrated of Italian painters, remarkable for his faithful imitation of Nature, and unrivalled in his portraits and landscapes, was born in 1480, and died at the age of ninety-six.

Tomahawk, an Indian war-hatchet.

Torricelli, an illustrious natural philosopher of Italy, was born in 1608, and died in 1647. He discovered the principle of the pressure of the atmosphere, according to which, water ascends in pumps, and invented the barometer, an instrument for showing the degree of this pressure. See 'Pursuit of Knowledge under Difficulties,' Vol. i., being Vol. xiv. of 'THE SCHOOL LIBRARY.'

Tower of London, see *London, tower of.*

Trajan, one of the most distinguished of the Roman emperors, was raised to the Imperial throne, A. D. 97. He extended the limits of the Roman empire, and adorned Rome with many magnificent works of architecture.

Transcendental, in the philosophy of the mind, is that which *transcends*, or goes beyond, the limit of ordinary experience, or the perceptions of the senses.

Transcendental mathematics is a branch of mathematics relating to certain curves or lines which cannot be explained by the ordinary operations of algebra, and are called *transcendent*, or *transcendental*.

Tully, or *Tullius*, one of the surnames of Cicero, *which see.*

Tupac Amaru, (José Gabriel,) a Peruvian Indian, who made an attempt, in 1780, to reestablish the 'empire of the Sun,' or ancient form of government in Peru, and to overthrow the Spaniards. A general rising of the Indians took place, under his guidance, and the war lasted for two years; but the Indians were subdued, and their leader was put to the cruel death of being torn asunder by wild horses.

Turks, the subjects of the Turkish or Ottoman Empire, comprehending Turkey in Europe and Turkey in Asia. The correct national appellation is Osmanli. See *Ottoman.*

Tuscan, belonging to Tuscany, a country of Italy. The language of the Tuscans is considered the purest and finest in Italy; hence the phrase, 'Tuscan softness,' to express the sweetness and melody of the Italian language. The term 'Tuscan artist' is applied by Milton to Galileo, a Tuscan by birth.

Tycho Brahe, a celebrated Danish astronomer, of the sixteenth century. His system of astronomy, that the sun and heavenly bodies revolve round the earth, was soon rejected by succeeding astronomers, in favor of that of Copernicus, (*which see*;) but his observations and improvements in astronomical instruments, were of great value.

Tyre, one of the most wealthy and important commercial cities of antiquity, situated in Phœnicia. Carthage was a colony from Tyre. *Tyrian*, belonging to Tyre.

Ulysses, King of Ithaca, one of the Grecian chiefs who fought at the siege of Troy. His adventures form the subject of the Odyssey of Homer. He was the husband of Penelope, celebrated for her conjugal fidelity, and the father of Telemachus. He was noted for his sagacity and craftiness.

United Colonies. In 1643, the colonies of Massachusetts, New Plymouth, Connecticut, and New Haven, formed a confederacy under the name of the United Colonies of New England, which lasted about forty years, till they were deprived of their charters by King James the First. The name was afterwards applied to all the colonies, before the title 'United States' was assumed.

Uranus, a name sometimes given to the planet Herschel.

Valdarno, or Val d'Arno, the valley of the Arno, a river in Italy, which runs by Florence.

Vancouver, (George,) a midshipman under Captain Cook, and afterwards commander of a British expedition of discovery to the North Pacific Ocean. He died in 1798.

Vega, (Lopez Felix de,) or *Lope de Vega*, a celebrated Spanish dramatic poet. He was a very voluminous writer, and it is supposed that some eight hundred of his plays were represented on the stage. He possessed great dramatic invention, but his pieces are loosely and hastily executed. He was born in 1562, and died in 1635.

Venice, a city of Italy, at the head of the Adriatic Sea, (or *Gulf* of Venice,) once one of the most important commercial cities of Europe, and still a city of much commercial and manufacturing business. It is built entirely upon small islands, having canals instead of streets. Its population is about one hundred and fifty thousand persons.

Venus, one of the deities of the ancient mythology, and the goddess of beauty, has been a favorite subject for both painters and sculptors. One of the most celebrated statues of Venus is the 'Venus de Medici,' in the gallery at Florence, an ancient work of art, discovered in 1695, and an object of universal admiration, for its exquisite beauty of form and proportion.

Vienna, the capital city of Austria, situated on the river Danube, and containing upwards of three hundred thousand inhabitants.

Villiers, (George, Duke of Buckingham,) an unworthy favorite of

James the First and Charles the First of England, was born A. D. 1592, and died by assassination, in 1628. By his natural graces of person and manner, he first gained the affection of King James, who invested him with numerous high and profitable offices, and at last with almost unlimited control of all the honors and emoluments of the kingdom. He was possessed of inordinate ambition, and was unfaithful even to the King who trusted and honored him. The parliament, under Charles the First, pronounced him a traitor to the liberty of his country, and prepared to impeach him ; but the favor of the King supported him against all attacks.

Virgil, one of the most distinguished poets of ancient Rome, was born in the year B. C. 70. He went to Rome at about the age of thirty, gained the favor of Mæcenas, and became an intimate friend of the Emperor Augustus. He died in the fifty-second year of his age. His disposition was mild and gentle, his demeanor modest. His poetry is marked by sweetness and dignity, without possessing the highest energy and sublimity. But he is generally regarded as the first poet of his age.

Viscera ; the interior parts of the body ; the heart, lungs, liver, stomach, intestines, &c. The ancients examined the *viscera* of animals freshly killed, under the erroneous idea that they could draw from them omens of future events.

Wampum, strings of pieces of perforated shells, used, instead of money, by the American Indians.

The *War of* 1755, between the French and English colonies in North America, was carried on from 1755 to 1763, forming one branch of the Seven Years' War, (*which see.*)

Washington, (George,) was born February 22, 1732, and died December 14, 1799. For a biography of Washington, see 'The School Library,' Larger Series.

Watt, James, a man remarkable for his acquisitions in science and natural philosophy, and for his improvements in the steam-engine, was born in 1736, and died in 1819. For a biographical sketch of his life, see 'Pursuit of Knowledge under Difficulties,' Vol. ii., forming volume xv. of 'The School Library,' Larger Series.

Weaver's beam. In the process of weaving, the warp, or threads running lengthways of the cloth, are wound upon a round *beam* or roller.

West, (Benjamin,) was born in Pennsylvania, in 1738. He early manifested a genius for drawing and painting, and followed these pursuits with eagerness, notwithstanding the limited opportunities for improvement which his situation afforded him. In his eighteenth year, he established himself as a portrait painter in Philadelphia. He afterwards visited Italy, and finally fixed his residence in England, where he was much favored by George the Third, and employed upon various historical and scriptural paintings. In 1792, he became President of the Royal Academy of Painting, in London, (an institution for the encouragement of this art, founded in 1768.) He died in 1817. His productions are very numerous, and some of them of a high order ; but they generally show more of the skill of art, than of the fire of genius.

Westminster Abbey, an edifice in *Westminster*, (which forms the part of London most inhabited by the higher classes,) containing various chapels, and used as the place of coronation of the English kings. It contains monuments to most of the illustrious men of England.

Whitney, Eli, was born at Westborough, Massachusetts, in 1765, and died in 1825. He was buried at New Haven, and over his remains a beautiful monument has been erected to his memory. He was an able and ingenious mechanician, and is well known as the inventor of the *cotton-gin*, a machine for separating the seeds from the downy fibre of the cotton, an operation previously performed slowly, and with great labor, by hand. For a description of this machine, see Bigelow's 'Useful Arts,' Vol. i. page 111, being the eleventh volume of 'THE SCHOOL LIBRARY.' His Life will appear in a subsequent volume of 'The School Library.'

Whittemore, (Amos,) died at West Cambridge in 1828, aged sixty-nine. He was the inventor of the machine for sticking cards, by which the wire is reeled off, cut of the right length for teeth, bent, holes pricked in the leather, and the teeth inserted, till the card is completed, and all this by a rapid operation of a machine, which fills no more space than a small table.

Wiclif, or Wickliffe, (John,) was born in Yorkshire, England, about the year 1324. Being a bold thinker in religious matters, he took a prominent stand against the encroachments and corruptions of the Pope and Roman Catholic clergy, and endeavored to restore the apostolical simplicity and purity of the primitive Christian Church. He was a man of great learning, and an ardent Reformer. He disavowed the spiritual supremacy of the Pope, and considered the confession of sins to a priest, when sincerely repented of, as useless. Among his other numerous writings, he finished a translation of the Sacred Scriptures. He died of a paralytic attack, in 1384.

Wilkie, David, a distinguished painter, remarkable for his skill in painting scenes of domestic life, was born in Scotland, in 1785.

Williams College is located at Williamstown, Massachusetts.

Winthrop, (John,) Governor of the colony of Massachusetts, was born in England in 1587, and came out to America in 1630, having been previously chosen Governor.

Wyse, a living writer on Education.

Yale College is located at New Haven, in Connecticut.

Yorktown, a town in Virginia, famous for the capture of Lord Cornwallis and his army by the Americans under General Washington, October 19, 1781, which was the last important event in the Revolutionary War, and the immediate cause of the cessation of hostilities.

Young, (Edward,) a distinguished English Poet, who was born in 1681, and died in 1765. He was the author of several tragedies, but is most known by a serious poem, called the 'Night Thoughts,' which, though sometimes extravagant in language and sentiment, exhibits marks of considerable poetical power and genius.

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